Exhibit F

Managing Fixed Income Portfolios

Edited By Frank J. Fabozzi

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Table of Contents

Preface

Managing Fixed Income Portfolios provides comprehensive coverage of the key elements involved in the management of fixed income portfolios. The majority of the contributors to the book are bond portfolio managers. The book assumes the reader has a fundamental understanding of the features of fixed income securities and the various products.

The book is divided into four sections. Section I covers various interest rate risk measures. At one time managers focused only on level risk. Today, measures focus on the exposure to changes in the yield curve. Several of the chapters discuss the importance of this risk and alternative approaches to measuring yield curve risk. Section II explains how the inputs needed to construct a portfolio are generated. Section III describes the various active and structured portfolio strategies, as well as strategies between these two extremes. Management of high-yield corporate bonds, municipal bonds, mortgage-backed securities (residential and commercial), and corporate loans is covered in Section IV. The two chapters in Section VI provide comprehensive coverage of the management of international bond portfolios. The two chapters in Section VII discuss performance evaluation.

The insights provided by the contributors to *Managing Fixed Income Portfolios* will help you more effectively manage your bond portfolios.

Frank J. Fabozzi

Chapter 16

A User's Guide to Buy-Side Bond Trading

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INTRODUCTION

The mythic trader, living by his wits and betting vast sums on market fluctuations, does not work for an investment management firm (buy-side).[1] Although he may flourish at a broker-dealer (sell-side), the odds are stacked against him on the buy-side.[2] On the sell-side he is a market-maker, earning, rather than paying, the bid-ask spread on each transaction. Moreover, greater (limited) access to information about investor preferences creates opportunities (barriers) for the sell-side (buy-side) trader to exploit short-term market technicals.

The natural question is, what is buy-side trading? There is no simple answer, because traders do different things at different firms, and the distinction between research, portfolio management, trading, risk management, and compliance is often blurred. A common thread, however, does exist — traders gather and interpret market information, and execute transactions.

Upon learning this, a sell-side trader once commented to me, "Oh, you mean they're *just* order takers." To which I responded, "Yes, in the same sense that a golfer *just* hits the ball in the cup." Both are highly specialized and highly skilled, and both face complex challenges not easily understood by laymen.

The main purpose of this chapter is to discuss some of the complexities of buy-side trading.[3] What are the relative advantages of an instantaneous auction, a bid list and a sale order? Does market liquidity or volatility matter? What

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[1] The terms "buy-side trader" and "investor" are used interchangeably, as are the terms "sell-side trader" and "broker-dealer."

[2] Certainly, buy-side traders also have some advantages, such as partial access to dealer inventories. A detailed comparison, however, of the relative advantages of buy- and sell-side traders is beyond the scope of these discussions.

[3] In the language of a strategic game, how should you construct the game, what are the optimal strategies of the players, and what is the game's solution?

I would like to thank Fred Cohen, Sloane Lamb, Elaine Mintzer, Walter Prahl, and Frank Trainer for their insightful comments on an earlier draft. This chapter is dedicated to the memory of William S. Vickrey — a gentleman and a scholar whose ideas inspired generations of his students.

should you expect from sell-side traders? What is your optimal strategy? How much can you hope to gain from a job well done?

MARKET CONDITIONS

Selecting the best buy-side trading strategy is very difficult. It depends on numerous factors, many of which are intangible. Although there is no adequate substitute for an experienced trader, one axiom certainly applies — market conditions matter a great deal, and often in a predictable way. In this context, it is useful to consider two market extremes: liquid and illiquid.

Although liquidity is somewhat in the eye of the beholder, a liquid market can generally be defined by *small bid-ask spreads which do not materially increase* for large transactions. These conditions make liquidity the financial-market equivalent of perfect competition in the goods economy. In a perfectly competitive market, consumers and producers have no individual influence on price. Likewise, the sell-side trader's influence over price declines with financial-market liquidity. Nonetheless, complications — such as imperfect information and real-time execution — make trading skills valuable even in a very liquid market. A good buy-side trader might add a couple of basis points in return by choosing the optimal bidding process and closing the transaction.[4]

Illiquid markets pose somewhat different challenges. Acquiring reliable information becomes much more difficult because securities are typically less homogeneous and are infrequently traded. Moreover, the cost of ignorance can be great, as the notion of a market clearing price is not well defined. Executing a transaction might take days, rather than seconds, and can resemble the mating ritual of a praying mantis. Under some circumstances, enhanced information and negotiating skill can add a few percentage points to a transaction.

Exhibit 1 provides indicators of market liquidity for a cross-section of the fixed-income universe. Bid-ask spreads are estimated for typical and distressed conditions, because the liquidity of a particular market can fluctuate. For example, the bid-ask spreads on Fannie Mae Trust Interest-Only Strips (IOs) have ranged from less than 0.5% to more than 5%. In light of this variability, identifying the determinants of liquidity becomes important.

FACTORS INFLUENCING LIQUIDITY

Market liquidity is defined in terms of bid-ask spreads. The exact meaning of "bid-ask spread," however, is open to interpretation. For the sake of exposition,

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[4] A couple of basis points per trade can add up; if annual turnover were high on liquid investments (say, 2½ times), this would translate into 5 basis points in performance. Although this figure seems small, it is significant in light of the fact that a bond manager need outperform the market by only about 75 basis points a year in order to be ranked in the top quartile.

suppose that on November 27, 1996, four broker-dealers simultaneously bid (to buy) and offer (to sell) $100 million Freddie Mac 7.0% Gold PCs for delivery on December 11, 1996 (Exhibit 2).

Prices are quoted in terms of points ($ per bond with $100 face value) and 32nds of a point (called ticks), where + denotes one-half of one 32nd. Dealer 1 is willing to buy the bonds at a price of 99 points and 4/32, and sell them for a price of 99-06. The dealer might view this two-tick difference in his bid-to-offer price as the bid-ask spread. From a market perspective, however, the bid-ask spread is one tick: the difference between the highest bid (99-05, by Dealer 4) and the lowest offer (99-06, by Dealers 1 and 3).[5] In this example — one from a very liquid market — the two measures of bid-ask spread arrive at almost the same value. For an illiquid market, the result can be quite different.

Exhibit 1: Indicators of Market Liquidity

	Market Size ($ billions)	Bid-Ask Spreads (% price)	
		Typical	Distressed
Mortgage-Backed Securities (MBS)			
Fixed-Rate Generic	1,500	0.06	0.25
ARM	150	0.13	0.38
Companion CMO	260	0.50	1.50
IO Strip	70	0.63	5.00
Treasuries			
Bills	760	0.002	0.005
On-the-Run Notes and Bonds	70	0.03	0.06
Off-the-Run Notes and Bonds	2,760	0.06	0.09
Corporates (Intermediate)			
A Finance	130	0.12	0.50
B Industrials	80	0.50	5.00
Municipals (Long)			
Aa/Aaa	1,300	0.25	0.75

Source: Salomon Brothers, Lehman Brothers, and Sanford C. Bernstein estimates

Exhibit 2: Identifying Bid-Ask Spreads

Price	Dealer 1	Dealer 2	Dealer 3	Dealer 4
Bid	99-04	99-04+	99-04+	99-05
Offer	99-06	99-06+	99-06	99-07+

[5] Although the market bid-ask spread is theoretically well defined (best bid minus best offer), in practice it can be somewhat ambiguous. As discussed later, it may be desirable to limit the number of potential counterparties in a transaction. Absolute certainty that the best bidder or offerer has been included is therefore not possible.

Dealer competition is a requisite for a liquid market. Without it, dealers can usually widen their bid-to-offer price in the natural pursuit of profits.[6] The lure of stable trading profits — large markets, modest entry costs, and low security volatility (good hedging vehicles) — serves as a magnet for dealer competition. Markets for complex, heterogeneous securities tend to violate all three conditions. These securities are often volatile and difficult to hedge and therefore have very high research and distribution costs. Some mortgage derivatives — such as IOs and inverse floaters — fall into this category. Researchers, elaborate databases, computer systems, and a knowledgeable sales force are all necessary to successfully compete in this arena. Not all derivatives, however, are illiquid. For example, many interest rate derivatives, such as futures, swaps and caps, are much easier to hedge[7] and require neither a significant research commitment nor a large scale distribution network. In fact, although some interest rate derivatives appear to be complex, they can often be reduced to a bundle of simpler instruments.

Markets for heterogeneous, complex securities tend to be illiquid for another reason as well. By their very nature, these markets cannot have a single price to signal aggregate investor preferences. Information is therefore much more diffuse and must be imprecisely inferred via recent trades of similar securities and conversations with potential investors. As a result of this uncertainty, rational sell-side traders will widen their bid-to-offer spread in order to avoid the "winner's curse."[8]

The "winner's curse" describes the tendency for a competitive auction — a public sale of any security to the highest bidder[9] — to produce sale prices in excess of an asset's value. Understanding an auction's impact on the behavior of sell-side traders is the first step in selecting optimal buy-side trading strategies.

WINNERS, COVERS, AND BID-ASK SPREADS

Traders try to avoid the winner's curse. Suppose five sell-side traders are bidding on a bond worth 95-00, but because their information is imperfect they don't know its true value. They do know, however, that winning the auction is tantamount to tendering the highest bid. Moreover, because professional traders' expectations are unbiased (over many auctions, they average close to the true value),[10] the winners' subjective valuation will tend to exceed the true value. Sell-side traders therefore know that they must shave (raise) their bid (offer) or risk overpaying (underselling)

[6] As illustrated in Exhibit 2, increased dealer participation (certainly in excess of one) also tends to reduce bid-ask spreads by increasing the chance that the best bid or offer will improve.

[7] Interest rate volatility, which is relatively easy to quantify and hedge, is the dominant source of risk.

[8] For a detailed discussion of the winner's curse, see Richard H. Thaler (ed.), *The Winner's Curse: Paradoxes and Anomalies of Economic Life* (Princeton, NJ: Princeton University Press, 1992).

[9] Due to its importance to the fixed-income markets, the Treasury Auction — the sale of newly issued government securities — is sometimes referred to as "The Auction." In all the following discussions, the more general usage is intended.

[10] Otherwise, they would go out of business, because they would consistently lose money by overpaying for securities or miss trades by underbidding.

for the security. The larger the number of participants and the greater the uncertainty surrounding the true value, the more hazardous the auction.[11]

Exhibit 3 provides the results from a series of simulations in which security valuations are drawn from a normal distribution centered around the true value (95-00). Each entry — based on 1,000 simulations — differs only by the number of participants in the auction and the standard deviation perceived by the traders. For example, the entry in the first row and column states that, in two-participant auctions in which trader opinions have a standard deviation of 0.25 points, the average high valuation is 0.14 points above the true value.

The marginal impact of additional participants is at first large, but diminishes rapidly. For example, the probability of the tenth participant's valuation exceeding the first nine is much lower than that of the third participant's exceeding the first two. However, the marginal impact of market uncertainty — as we move from left to right — does not taper off. Intuitively, the probability of a high valuation (expressed in terms of standard deviations) is constant. As a result, high valuations (expressed as absolute increases over the true value) increase proportionally with uncertainty. For example, the entries in the fourth column — 1 point standard deviation — are about four times the magnitude of those in the first column — ¼ point standard deviation.

The rational sell-side trader will cheapen (richen) his bid (offer) by at least the expected difference between the mean high (low) valuation and true value.[12] Otherwise, he can expect to lose money trading. For instance, in a three-person auction where the perceived standard deviation is 0.25 points, the high valuation tends to exceed the true value by 0.21 points. Trader rationality therefore requires bid reduction by at least this amount. The larger the auction, therefore, the more traders will tend to cut their bids. In this regard, increasing competition may seem to have no impact on sale price, because each time the number of bidders grows, the individual bids are further reduced to neutralize the heightened danger of the winner's curse.[13]

Exhibit 3: The Winner's Curse

	Standard Deviation (points)				
Participants (#)	0.25	0.50	0.75	1.00	1.50
2	0.14	0.28	0.42	0.56	0.85
3	0.21	0.42	0.63	0.84	1.26
4	0.26	0.53	0.76	1.03	1.56
5	0.30	0.58	0.85	1.15	1.72
6	0.31	0.63	0.95	1.25	1.89
8	0.36	0.71	1.07	1.41	2.11
10	0.38	0.80	1.13	1.55	2.31
15	0.44	0.86	1.34	1.74	2.62

[11] In fact, sell-side traders routinely ask the buy-side trader to reveal the number of participants in the auction.

[12] In statistical terms we can think of the winning bid as the highest order statistic of independent draws of a random variable. The expected value of the highest (winner) and second highest (cover) order statistic and the random variable (true value) refers to the values being discussed.

[13] Unless, of course, bidders are consistently and successfully deceived about the number of other participants — an unlikely possibility.

Exhibit 4: Uncertainty, Auction Size, and Anticipated Cover

	Standard Deviation (points)				
Participants (#)	0.25	0.50	0.75	1.00	1.50
2	0.28	0.56	0.84	1.12	1.70
3	0.21	0.42	0.63	0.84	1.26
4	0.17	0.37	0.56	0.73	1.10
5	0.17	0.33	0.48	0.67	1.00
6	0.15	0.31	0.46	0.60	0.94
8	0.14	0.27	0.43	0.58	0.90
10	0.13	0.29	0.40	0.56	0.79
15	0.12	0.24	0.38	0.49	0.78

Competition, however, can systematically raise bids because it reduces the bargaining leverage of individual broker-dealers. "Bargaining leverage" refers to the amount by which the winner *believes* he can lower his bid (after compensating for the winner's curse) and still win the auction. After the auction has taken place, the *realized* difference between the winner and the second highest bidder is called the "cover." Bargaining leverage is the a priori analog of the (ex post) cover and is, therefore, sometimes referred to as "anticipated cover."

The anticipated cover is shown in Exhibit 4 to be decreasing with the number of participants and increasing with the asset's perceived volatility. Intuitively, the greater the number of participants with similar opinions, the less likely that the winner's valuation will significantly exceed the second most aggressive bidder. A profit-maximizing trader trying to just outbid the second highest bid will lower his bids as his bargaining leverage increases. Taking into account rational sell-side trader behavior, the process by which auction size and uncertainty determine market liquidity (bid-ask spread) is illustrated in Exhibit 5.

Step 1 of Exhibit 5 provides a distribution of valuations for two environments. Column A describes a very liquid market — many participants with similar opinions (represented by dots along the line). Column B depicts an illiquid market. In Step 2 all the valuations are adjusted downward (translated to the left) by the amount by which traders expect the average high valuation to exceed the true valuation, over many identical auctions. Note that in both auctions (Columns A and B) the true value and high adjusted valuation are equal to 95-00. Although this result will certainly not occur in all circumstances, it should hold *on average* as traders alter their valuations to the auction's characteristics. As illustrated in Step 3, bids will be reduced below the adjusted valuations, in relation to the trader's bargaining leverage — the greater the anticipated cover, the lower the ultimate bid. The expected difference between the true value and the winning offer price in a purchase auction can likewise be derived. In Step 4, the equilibrium bid-ask spread results from combining the expected winning bids and offers.

Exhibit 5: Equilibrium Bid-Ask Spreads

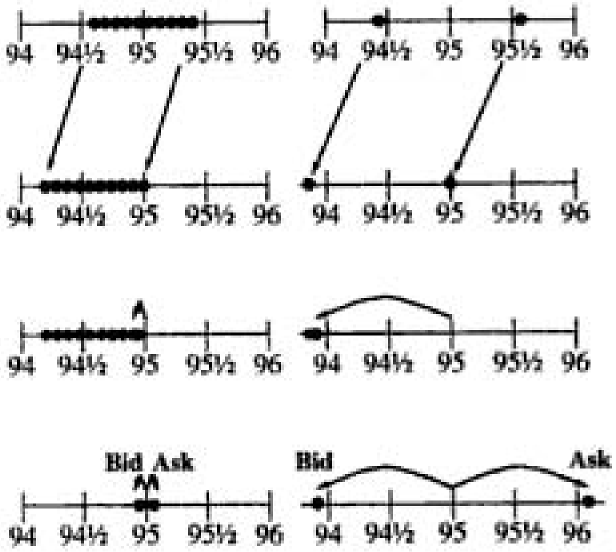
	Large Auction/ Low Volatility (A)	*Small Auction/ High Volatility* (B)

Step 1
Valuations distributed about true mean of 95-00

Step 2
Bids reduced by expected difference between high valuation and true value (see Exhibit 3)

Step 3
Bids reduced in proportion to bargaining leverage

Step 4
Adding symmetric results for offers determines bid-ask spreads



Auction Size	10	2
Volatility	0.25	1.00

The missing piece in determining equilibrium bid-ask spreads is the amount of the surplus (due to bargaining leverage) that sell-side traders will systematically attempt to extract.[14] In theory, traders might try to extract anywhere from a small fraction to a multiple of the surplus. Traders would limit their attempts to extract the surplus if they believed that these attempts significantly increased the odds of losing the trade. Alternatively, traders would attempt to extract a large multiple of the surplus if they believed that all other traders were doing likewise and that, therefore, the bid necessary to win the trade was actually much lower than rational valuations would indicate. Absent other compelling reasons (such as the need to cover a short position), neither of these are frequent occurrences. From the trader's vantage point, there is little to lose in attempting to extract some surplus, because it is not (yet) a profitable trade. As the trader extracts greater amounts of the surplus, the trade becomes increasingly profitable, and further attempts are increasingly risky. In practice, it seems as though traders often attempt to extract the entire surplus, but not much more. As shown in the appendix, extracting the entire surplus is the optimal strategy under certain mathematical conditions.

[14] In the common vernacular, they will attempt to leave as little money on the table as possible.

AUCTION DESIGN FOR A LIQUID MARKET

The results of the preceding section argue that increasing the auction size improves buy-side execution by reducing the temptation for the broker-dealer to shave his bid. Although there is no disputing this conclusion, the potential benefit from increasing the auction beyond a handful of participants is often quite small. For instance, consider a generic par-priced mortgage passthrough (with a standard deviation of about 0.25 points). As shown in Exhibit 4, adding the third bidder reduces the anticipated cover by 0.07 points to 0.21 points. Adding the next 5 bidders reduces the anticipated cover by an additional 0.07 points. Moreover, even for a liquid security there are rarely more than a half dozen or so contending counterparties. It is the job of the buy-side trader to know their identity.

Large auctions do have their disadvantages. As the number of competitors increases, the time required to gather the bids (or offers) increases; in turn, this raises exposure to market volatility, which introduces uncertainty about best price. Transactions are not final until a bid is accepted and confirmed. The greater the time between bid and acceptance, the less certain the confirmation. There are a variety of potential solutions to this problem (e.g., multiple traders, spread trades versus a reference Treasury benchmark, hedging), but these solutions have associated costs that must be weighed against the benefits.

Our experience suggests that the optimal auction for a liquid security is usually three to five participants. It provides a good balance between timely execution and a small cover. Real time execution, however, creates another opportunity for the highest bidder to lower his price: trade confirmation.

Once bids have been tendered, the buy-side trader identifies and accepts the highest price. It is then up to the bidder to confirm the price. Even in the absence of any market movements, the bidder has an immediate incentive to lower his bid, because he knows that it must have been the highest. If real time frictions were not an issue, and if bonds traded in infinitely small price units, there would be only a small incentive for the sell-side trader to lower his bid price, because he has already selected his optimal bid and lowering the price further would increase the probability that the trade would fall through. These complications, however, provide the would-be winner an opportunity to lower his bid by the minimum amount in which the particular bonds trade. For instance, mortgage passthroughs trade in units of a + (1/64). As a result, the winner has the incentive to lower his bid by that amount. Theoretically, although this type of behavior (opportunistic re-bidding) doesn't necessarily affect execution,[15] it can in practice.

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[15] If traders raise their initial bid by a +, realizing that they will lower their bid by a + at confirmation, there is no net effect. Due to the conventions of trade confirmation, however, this type of behavior is somewhat unlikely. If the last bid to arrive is the best, the buy-side trader can immediately accept it, with confirmation essentially guaranteed. Sell-side traders are reluctant to admit to opportunistic re-bidding, and it is difficult to attribute a bid change to external factors when acceptance is immediate.

Only a minority of sell-side traders seem to display this sort of behavior. It complicates the trade and jeopardizes its completion, all for a modest and uncertain gain — on the order of a + for mortgage passthroughs ($15,625 on a $100 million transaction). Moreover, buy-side traders can discourage re-bidding by reducing its profit potential. For example, bids can be sequentially requested with habitual re-bidders put last in the queue, thereby increasing the odds of an instantaneous acceptance (confirmation virtually assured) when the best price is tendered. In addition, buy-side traders can declare that ties will not be awarded to opportunistic re-bidders. Nonetheless, opportunistic re-bidding cannot be completely eliminated.

AUCTION DESIGN FOR AN ILLIQUID MARKET

The main goal of the buy-side trader is to achieve best execution. With liquid (homogeneous) securities, this amounts to encouraging competition without unduly increasing transaction time. There is no fundamental difference between a purchase and a sale. Bids or offers are tendered for essentially identical securities. Illiquid[16] securities, however, are often heterogeneous and, although this does not affect sale mechanics (you can still request competitive bids for the particular security), it does affect purchases because only one dealer will typically be able to offer any particular security. Although the basic conclusion about the desirability of competition still holds, other considerations are also important, and sales and purchases must be separately examined.

Sales can be conducted, much like those for liquid securities, as an instantaneous auction. A much larger standard deviation of the true asset value, say on the order of 1.5 points, would suggest a very large auction size. As shown in Exhibit 4, bargaining leverage doesn't really level off until the auction reaches a size of about 10 bidders — a seemingly unwieldy number. The benefits and costs of a large auction, however, are not as great as is indicated by a liquid market.

Competition does not increase commensurately with auction size because, in most cases, there are only a few genuine competitors in these markets. As a result, the level of competition in an instantaneous auction is limited. Sell-side traders understand market conditions and act accordingly — they attempt to exploit their bargaining leverage.

Although an experienced buy-side trader will have a good notion of the best competitors' identities, a larger auction sometimes produces a surprising winner due to a special interest in a particular bond.[17] Fortunately, the problems associated with a large auction do not usually increase much with illiquid securities — as long as they are hedged. Transaction time may increase and execution might erode somewhat with uncertainties concerning best price. The possible loss

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[16] "Illiquid" refers to the entire continuum of bonds that are not classified as liquid.

[17] In the municipal market, it is not always possible to identify the best competitors in advance, and so it is often desirable to cast a wide net.

of a couple of 32nds, however, is dominated by the possible gain from a surprise winner — sometimes on the order of a half point or more. Of course, common sense argues for avoiding times of heightened market volatility, such as the release of economic news.

The greatest expected gain in an illiquid transaction may be achieved not by increasing auction size, but by decreasing trader risk (asset value uncertainty). As shown in Exhibit 4, lowering risk reduces bargaining leverage by concentrating security valuations. Moreover, risk reduction also lowers the return requirements (raises the bids) of traders. These are not material considerations for liquid markets in which traders have timely and accurate information and a very short holding period — risk is already close to a minimum. Quite the opposite is true for an illiquid market.

Allowing bidders the opportunity to broker the bonds can essentially eliminate their risk. There are two common ways of brokering bonds — a sale order and a bid list. A *sale order* is an exclusive agreement in which the investor will sell a bond to the dealer at or above some reservation (minimally acceptable) level. A *bid list* is a delayed (rather than instantaneous) auction. Both provide dealers the opportunity to collect bids from potential investors, and thereby shift risk to the ultimate purchaser. The beneficiary of the risk transfer, however, differs by method.

There are two advantages of a bid list — risk reduction and competition. Bid-ask spreads can, at times, be reduced to those of a liquid market. A sale order, however, lacks the advantage of direct competition; as a result, transaction prices rarely exceed the reservation level, because brokers extract the surplus. In order to achieve a good execution level, the buy-side trader must have exceptionally accurate information when setting the reservation level and selecting the broker. Heroic information requirements, together with broker incentives to extract some surplus, make sale orders a much less effective sale mechanism than bid lists for most MBS and municipal bond sales.

Why would a sale order ever be the preferred course of action? It can be argued that in some instances the inclusion of several brokers, as in a bid list, can erode execution. Dealers will approach their clients, the ultimate investors, with suggested bid levels based upon their (possibly unique) read of the market. Most institutional investors will be contacted by several dealers. Some investors will select the dealer (and the bid) with a low suggested bid level, even though they might be willing to pay more for the security — a practice that can reduce transaction price — in order to avoid the winner's curse. Including only well informed participants on the bid list is one way to limit this sort of price erosion. For these reasons, as well as for the fact that they comprise a much less diverse universe (information is more readily available), making it easier to ascertain the level at which they should trade, a sale order is often the preferred course for corporate bonds. In general, however, it is probably better to err on the side of including too many than too few participants.[18]

[18] Hybrid strategies such as bid lists with a reservation level can be used to mitigate the potential hazards of a bid list.

One exception to the "more is better" rule about bid lists versus sale orders does exist. Very complicated securities sometimes require a significant amount of time and effort to sell. A sale order might be necessary to attract the appropriate effort from a broker. In these circumstances market knowledge and negotiating skill determine execution price.

The perception of competition is also valuable when *buying* illiquid securities. Because the available supply of similar securities is often limited, dealers need not necessarily offer the best price to sell their bonds. It is therefore usually not in the buyer's best interest to shatter the illusion of competition by revealing a large demand. As with a very illiquid sale, purchase price may be most sensitive to negotiating skill and the quality of information.

Benefiting from the reduction in dealer risk is much less likely when buying illiquid bonds. Once the dealer owns the bonds, he has already placed his capital at risk and is therefore reluctant to sell them at razor thin margins. Moreover, when buying off a bid list, you are much more likely to suffer from the winner's curse than benefit from the lower bid-ask spreads. The optimal strategy, in that case, mirrors that described for the rational trader of a liquid product.

THE LONG-TERM RELATIONSHIP

Individual transactions are part of a long-term relationship. Trades must therefore be viewed in a broader context. As with any other relationship, people get to know some of each other's behavior patterns pretty well. For competitive auctions, the import of this knowledge is limited. With negotiations, however, long-term credibility becomes important. Tactics such as bluffs and threats must be used prudently and with the understanding that misuse may have consequences for future transactions and the relationship at large.

A satisfactory relationship serves both dealer and investor. The investor can benefit from a combination of liquidity, research, and other information (e.g., security pricing). Incremental competition is particularly valuable for trading illiquid securities. Dealers profit by making bid-ask spreads, which increase with their participation in transactions. As a general guideline, dealers have a strong incentive to encourage the relationship, especially because the marginal cost of providing research and other information is usually very low.

Incentives to the contrary, conflict can arise because each trade is a zero-sum game. Moreover, dealers are populated by many specialists — trading different securities — who are focused on their individual profitability. Some specialists at the same dealer may be much less interested in sustaining the long-term relationship than their colleagues. As a result, dealers provide investors a firm-wide representative (salesperson) who serves as the intermediary between the buy-side and sell-side traders.

The goal of the salesperson is to maximize dealer long-term profits by increasing participation in transactions, making terms more favorable to them

(e.g., sale orders), and minimizing disputes. It should be realized that the salesperson represents the dealer, not the investor. Although the two parties' interests sometimes coincide, trade execution may not be the place.

SUMMARY

Competition holds the promise of enhanced buy-side trade execution, especially for volatile securities. In order for that promise to be fulfilled, the competition must be genuine. Unfortunately, increasing the number of broker-dealers in an auction does not necessarily elevate the level of competition — incremental benefits diminish with increased auction size, and not all broker-dealers have equally informed traders.

Excessive auction size can have deleterious effects, such as execution delays and adverse price selection by the ultimate investors. Adverse selection occurs when several broker-dealers solicit interest from the same client, and that client chooses to tender the lower price. On the other hand, allowing broker-dealers to shift risk to their clients can enhance execution, because the broker-dealers are not placing their firms' capital at risk, and therefore they require lower expected profits from the trade. The objective of the buy-side trader is to balance these considerations. In practice, the optimal trade-off differs by market.

APPENDIX

An optimal bidding strategy is derived for an auction with two bidders (called 1 and 2). Both have an unbiased opinion (X_i) of the bond's value, uniformly distributed over an interval of unit length. Moreover, both bidders know that there is one other participant with an identically distributed opinion. As a result, trader i believes the other trader's opinion is uniformly distributed over the interval $X_i \pm 0.5$.

Each trader will select an optimal amount (S_i) by which he will reduce X_i in deriving his optimal bid (B_i). Optimality is defined by the strategy that maximizes the expected profits (π_i). Profits only materialize when a bidder wins, and are thereby diminished by the winner's curse. Expressed in mathematical terms, the expected profit (gross of winner's curse) for bidder i is:

$$\pi_i = \max_{S_1} \int_{X_1 - ½}^{X_1 - S_1 + S_2} S_1 dX_2 \tag{1}$$

The profit maximizing conditions solves the normal equation,

$$\frac{d}{dS_1}(S_1 \times (S_2 - S_1 + ½)) = 0 \tag{2}$$

The optimal strategy is therefore,

$$S_1^* = \frac{S_2}{2} + \frac{1}{4} \tag{3}$$

As shown in equation (3), the optimal strategy for trader 1 depends upon the optimal choice of trader 2, S_2. An equilibrium[19] occurs when both traders are simultaneously satisfied with their strategy, given the other's strategy. Because these traders are essentially identical, this occurs when $S_1 = S_2 = 0.5$. The optimal strategy can be decomposed into two parts: (1) the expected cost of the winner's curse and (2) the use of bargaining leverage.

The expected cost of the winner's curse can be calculated as the difference between the expected valuation by the winner (second order statistic) and the expected true value of the security (μ). These are:

$$\mu = \int_0^1 x \ dx = \frac{1}{2}$$

$$E(\max(X_1, X_2)) = \int_0^1 2x^2 \ dx = \frac{2}{3} \tag{4}$$

The expected value of the winner's curse is therefore ⅙ = (⅔ – ½), and the use of bargaining leverage is equal to ⅓ = (S_1 – ⅙) = (½ – ⅙) — the entire amount of anticipated cover because

$$E(\min(X_1, X_2)) = E(X_1 + X_2) - E(\max(X_1, X_2)) = 1 - ⅔ = ⅓ \tag{5}$$

[19] Called a Nash equilibrium in the economics literature.

Exhibit G

Bid-Ask Spreads (% of Price) - Fabozzi June 1997

	Normal	Distressed	Multiple
On-the-Run Treasuries	0.03	0.06	2.00
Off-the-Run Treasuries	0.06	0.09	1.50
Corporates (Intermediate)	0.12	0.50	4.17

Bid-Ask Spreads (% of Price) to Use for US Agency Del

Remaining Maturity	Normal *	Distressed **
0-6 mos	0.06	0.14
6 - 12 mos	0.13	0.33
1 - 2 yrs	0.21	0.52
2 - 5 yrs	0.34	0.85
5 -10 yrs	0.49	1.22
10 - 30 yrs	0.45	1.13

* Average Bid-Ask Spread of Off-the-Run Treasuries from January 1992 to December 2002
** Fabozzi Multiple (estimate between Treasuries and Corporates) x Normal Bid-Ask Spread

Δ π EXHIBIT 710B
Deponent Slattery
Date 4/16/10 Rptr. KK
WWW.DEPOBOOK.COM

bt Haircuts

Exhibit H

Bid-Ask Spreads (% of Price) - Fabozzi June 1997

	Normal	Distressed	Multiple
Pass-through	0.06	0.25	4.17
ARM	0.13	0.38	2.92
Companion CMO	0.50	1.50	3.00
IO Strip	0.63	5.00	7.94

Bid-Ask Spreads (% of Price)- Bank of America July 2001

	Bid - Ask Normal	Bid - Ask Distressed *	Bid - Mid Distressed **
Inverse IO	4.2000	33.33	16.67
Structured IO	3.2900	26.11	13.06
WAC IO	3.2900	26.11	13.06
Structured PO	1.3000	10.32	5.16
Inverse Floaters	1.0600	8.41	4.21
Trust IO	0.4900	3.89	1.94
Trust PO	0.3400	2.70	1.35
Floaters	0.1250	0.99	0.50
Pass-through	0.0313	0.25	0.12

* Fabozzi Multiple x B of A Bid-Ask Normal

** Bid-Ask Distressed /2

Δ π EXHIBIT 717B
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Date 4/14/10 Rptr. KK
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Exhibit I

UNITED STATES BANKRUPTCY COURT
SOUTHERN DISTRICT OF NEW YORK

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In Re:

Chapter 11

LEHMAN BROTHERS Case No. 08-13555(JMP)

HOLDINGS, INC., et al., (Jointly Administered)

Debtors.

-----------------------x

DEPOSITION OF JOSEPH SCHWABA

New York, New York

April 12, 2010

Reported by:

KATHY S. KLEPFER, RMR, RPR, CRR, CLR

JOB NO. 29650A

April 12, 2010
9:28 A.M.

Deposition of JOSEPH SCHWABA, held at the law offices of Boies Schiller & Flexner, LLP, 575 Lexington Avenue, New York, New York, before Kathy S. Klepfer, a Registered Professional Reporter, Registered Merit Reporter, Certified Realtime Reporter, Certified Livenote Reporter, and Notary Public of the State of New York.

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ALSO PRESENT:
MARC VELLRATH, FSG

J. Schwaba

JOSEPH SCHWABA, called as a witness, having been duly sworn by a Notary Public, was examined and testified as follows:

EXAMINATION BY
MR. SHAW:

Q. Please state your name for the record, sir.
A. Joseph Schwaba.
Q. Mr. Schwaba, we introduced ourselves off the record, but my name is Jonathan Shaw. I'm representing Barclays Capital, Inc.
Have you ever been deposed before, sir?
A. I think I was deposed before once.
Q. In what context?
A. As a witness.
Q. An expert witness?
A. No.
Q. Fact witness?
A. Yes.
Q. What kind of case was that?
A. It was a long time ago. Must have been, oh, I'm guessing 20 years or so in regard

J. Schwaba

to a employee, somebody who used to report to me.

Q. Okay. I'm going to ask you questions. If any of my questions are unclear to you, please let me know and I'll try and do a better job of phrasing them. If at some point today you want to take a break, just let me know, and I may ask that we finish up a question or two, but, you know, obviously I'm happy to let you do that.

A. Sure.

Q. Have you ever testified as an expert before in any context?

A. I was in a couple of cases, must be eight-plus, nine years ago, where I gave some expert testimony, but it was an arbitration, as I recollect.

Q. What kind of arbitration was it?

A. I don't even -- I think it had something to do with a fixed income portfolio valuation, but I don't even remember the specifics and it didn't get very far.

Q. Did you actually testify in either of the actual arbitration or in deposition?

J. Schwaba

A. I was there and gave a minimal amount of testimony, as I recollect, but nothing more than that.

Q. How many hours have you worked on this matter so far?

A. I don't have a specific number, but I've put in easily a hundred-plus.

Q. Over what period of time?

A. Over the last couple of months. Let's see, where are we now? April?

Q. Yes.

A. I would recollect probably two, two and a half months.

Q. When were you engaged to begin work on this matter?

MR. TAMBE: Object to the form of the question.

You can answer.

THE WITNESS: I'm sorry? Say again.

MR. TAMBE: I just object to the form of the question, but you can answer if you understand his question.

A. Repeat the question, please.

Q. Sure. Do you know when -- you work

J. Schwaba

for Chicago Partners; is that correct? Navigant Consulting?

Let me start again. For whom do you work?

A. I'm an independent contractor.

Q. Okay. And were you retained in this matter, in this litigation at some point?

A. I was asked to provide -- to be an expert with regard to this matter.

Q. And who asked you to be an expert in regard to this matter?

A. Nick Weir.

Q. And who is Mr. Weir?

A. He is a principal of Chicago Partners/Navigant.

Q. And approximately when did Mr. Weir ask you to serve as an expert consultant in this matter?

A. I don't recollect.

Q. Was it in 2009 or 2010?

A. The best I can recall is we started having some discussions of a general nature in 2009, fall, and ...

Q. Have you ever at any point in your

J. Schwaba

career been a trader of municipal securities?

MR. TAMBE: Object to the form of the question.

Q. You can answer.

A. I have been -- I have managed trading operations of which municipal securities were a part.

Q. When did you manage trading operations?

A. One would be in when I worked for Continental Bank.

Q. And when was that?

A. That was approximately 1986 through 1990.

Q. Are there any other times that you managed traders in municipal securities?

A. I have managed portfolios at the Federal Home Loan Bank of Pittsburgh, which included some municipal securities as well.

Q. And when was that?

A. That was 19 -- or, excuse me, 2003 through 2009.

Q. What portfolio --

A. I should also, excuse me, during

J. Schwaba

Prudential Bache, 1982 through 1986, there were some municipal positions, or we dealt with strategy development with regard to some municipal positions.

Q. In your work at the Federal Home Loan Bank of Pittsburgh what were your specific responsibilities?

A. I was a Director of Corporate Risk Management.

Q. What do you mean by that?

A. I was responsible for managing market risk which had two or three different functions.

Q. And what were those functions?

A. One was the actual management of market risk on the balance sheet and the components of that; second was income simulation and forecasting; and third was optimizing capital management.

Q. What do you mean by "optimizing capital management"?

A. Well, incorporating into our analysis the amount of capital that would be allocated to particular -- an amount of capital we were using. The preservation and expansion of that

J. Schwaba

capital ideally as well.

Q. And what do you mean by "income simulation and forecasting"?

A. Basically in income simulation forecasting you're looking at a variety of different scenarios, potentially. Interest rates go up. Interest rates go down. Yield curve shifts. Goes flat. Yield curve goes steep. How will that impact your income both on a current basis and projecting out in a particular period of time.

Q. And what do you mean when you say "management of market risk"?

A. The securities that you have in your position will either go up in value or down in value based on market dynamics.

Q. How many portfolios were you responsible for managing while you were at the Home Loan Bank in Pittsburgh?

MR. TAMBE: Objection to the form of the question.

Q. You can answer the question.

A. I was one of -- there were -- I'm not sure I can understand the question. There was a

J. Schwaba

balance sheet and there are components of the balance sheet, and part of my responsibility and my group's responsibility was to measure that risk, and the measurement of that risk entailed both analysis of individual securities as well as analysis of portfolios or subsets of those portfolios.

Q. What percentage of the portfolios that you managed consisted of municipal securities?

MR. DAKIS: I'm going to object to the form of the question.

Q. You can answer.

A. Municipals were not a large part of our portfolio, as I recollect.

Q. What do you mean by "not a large part"?

A. I don't have specific numbers on them, but they were, you know, small percentage.

Q. Under 5 percent?

A. I would, as the best I can recollect, I would say they were definitely under 5 percent.

Q. Under 1 percent?

A. I couldn't say.

J. Schwaba

Q. Did you actually have any responsibility for directing trading decisions in the portfolio that you were responsible for as a risk manager?

A. At where?

Q. At Pittsburgh.

A. No direct trading decisions, no. However, I was on the Asset/Liability Committee, I should amend that, and we made major strategic decisions in the Asset/Liability Committee.

Q. What percentage of the portfolios you were involved with at Pittsburgh consisted of adjustable rate municipals?

A. I don't -- I couldn't recollect.

Q. Presumably it's a subset of the municipals in their entirety, right?

A. If we had them in there, presumably.

Q. And you don't know if you had any in there?

A. I don't know.

Q. What about auction rate securities?

A. I don't know for sure on that as well.

Q. Did you have any responsibility for valuation of municipal securities at Pittsburgh?

J. Schwaba

A. Part of our -- a big part of our responsibility was to measure the risk in our asset/liability book, and municipals were a part of that, and so given the asset/liability system that we were using and employing, there would be a value that would be derived from that. So we had a hand in coming up with a valuation, therefore, for those securities.

Q. When you say you had a hand in coming up with a valuation, what precisely do you mean?

A. Calculating what the risk of that particular element of the portfolio as well as other elements of the portfolios were.

Q. Did you have any responsibility for providing marks for those securities?

MR. TAMBE: Objection to the form of the question.

A. We did not have, the best I can recollect, we did not have direct responsibility for input of marks. However, we would check those marks with other business units that were providing. So we had input and oversight or some -- some, not oversight, but some input responsibility as a check.

J. Schwaba

Q. I'm not quite sure I understand what you mean. What do you mean you would check, who would provide you the marks that you were checking?

A. Typically, we would get them from the Capital Markets Department and from the -- they would get them from the street.

Q. Okay. And so you would then do what to check marks you received from the Capital Markets Department?

A. We would run -- we would, given what they gave us, we would run our models, and sometimes there are outliers. There could be a mistake, you know, the price, if a trade price looked like something was askew or, you know, a part of our responsibility was to make sure we caught that and to make sure, you know, if something was input wrong or there was an individual security that was -- whose price was -- looked different other than what, you know, some type of reasonable range, given the situation, it could be different, it was part of our responsibility, I thought, to check that.

Q. What's the source of the models that

J. Schwaba

were used to check these marks?

A. We had a -- we had a highly reputable model that was used in the street, an asset/liability model.

Q. Was that a proprietary model for your employer or was it something you had --

A. No, it was a -- it was a model that we contracted with an entity for.

Q. And what entity was that?

MR. TAMBE: Can I just consult with the witness?

(The witness confers with Mr. Tambe.)

MR. TAMBE: I think there's just a concern about the confidentiality of who the vendor might have been. We'll --

MR. SHAW: It's not something I feel strongly about so let's skip that one.

MR. TAMBE: Okay. He just doesn't know whether he's at liberty to divulge the name of that.

MR. SHAW: I understand. I understand.

Q. And you described that model as an asset/liability model; is that correct?

J. Schwaba

A. That is correct.

Q. And is an asset/liability model a valuation model?

MR. TAMBE: Object to the form of the question.

MR. DAKIS: Join in that objection.

A. I believe that an asset/liability model has a component of valuation in it.

Q. Is an asset/liability model, the type that you use, the type of model one would use to value a municipal security?

MR. TAMBE: Object to the form of the question.

MR. DAKIS: Same objection.

A. Could you repeat the question again, please?

Q. Sure. Is an asset/liability model of the type that you used the type of model one would use to value a municipal security?

MR. TAMBE: I repeat the objection.

MR. DAKIS: Same objection.

A. If I understand you correctly, our -- there were -- there were values obtained for the municipal component of our asset and liabilities

J. Schwaba

through use of the model.

Q. When you found what you described as an outlier, what would you do to investigate the difference between the values that had been provided to you by your Capital Management Group and those that would be coming up on your model?

A. Typically, what we would do is go back and check, first of all, with our Capital Markets folks that gave us -- through whom we got the quote or the number, and then we would either talk with them directly or in some cases we might go back to the ultimate source of that where we got our -- our street counterpart.

Q. Would it be fair to say the reason you would talk to the Capital Markets folks is that, as people who were actively trading in that market, they had a feel for the market and perhaps information about why a particular trade had occurred at a particular price?

MR. TAMBE: Object to the form of the question.

MR. DAKIS: Same objection.

A. Well, if I understand you, I mean, it could be. I don't, you know, there could be a

J. Schwaba

number of reasons, but --

Q. What other reasons would you have for talking to them about -- talking to them in the process of investigating why you found an outlier?

A. Well, as I said before, to see what, you know, why that number is what it is.

Q. And the reason you would expect them to know why that number is what it is is because they were, at least in part, is because they were actively participating in the market; is that correct?

MR. TAMBE: Object to the form of the question.

A. I'm not going to presume to know what their role is in great detail. However, other things being equal, they should know, you know, why the value of their positions are where they are. I think, you know, my experience, that's part of the job.

Q. In September of 2008, what involvement did you have with the market for municipal securities?

A. Well, as you know and as we just have

J. Schwaba

been discussing, that was part of my responsibility -- I was at the Federal Home Loan Bank and my responsibilities that I have just -- we've just talked about.

Q. What percentage of your time when you were working for the Federal Home Loan Bank would you say you spent working on issues relating to municipal securities?

A. Very low percentage.

Q. Under 5 percent?

A. Probably under 5 percent.

Q. Do you know if you spent any of your time working on issues relating to adjustable municipal securities?

A. I do not recollect working on adjustable rate securities.

Q. At any point in your career have you done work on adjustable rate municipal securities?

A. I don't recollect that.

Q. Just so it's clear, at any point in your career have you done any work on auction rate municipal securities?

A. I may have on some occasions, but I

J. Schwaba

don't recollect direct involvement in that.

Q. To the best of your knowledge, at any point in your career have you had any involvement with the valuation of adjustable rate municipal securities?

A. To the extent that auction rate or adjustable, as you described it, were involved in some of the portfolios that I was responsible for overseeing, there could have been some involve -- indirect involvement.

Q. I think it's probably worth spending a minute just defining some terms. What is your understanding of what an adjustable rate municipal security is?

A. My understanding is the rate on the security varies. We -- it can be an adjustable rate based on an auction rate, it can be an adjustable rate based on how it's priced in the marketplace, and that rate can vary through certain defined conditions.

Q. So if I'm understanding you correctly, in your view, an auction rate security or auction rate securities -- strike that.

If I'm understanding you correctly, in

J. Schwaba

your view, auction rate municipal securities are a subset of the larger group of adjustable rate securities, is that fair?

A. They could be construed that way.

Q. Well, is that how you construed them when you used the term in your report?

A. I wouldn't characterize it that way. I think we were defining what each specific security was.

Q. In the context of auction rate securities, what is a failed auction?

A. That is when there are not enough bidders for the particular security that's being auctioned off and so that they're, given that there are not enough bidders for the auction, the auction literally doesn't -- doesn't take place because there's not enough interest.

Q. So a failed auction indicates a lack of market interest in a security?

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Same objection.

A. I would not -- I am not sure I would characterize it that way.

J. Schwaba

Q. In what way is that characterization, in your view, inaccurate?

A. If you could repeat the question?

Q. Sure. Does a failed auction in an auction rate municipal security indicate to you a lack of market interest in that security?

A. It could be that the rate is not high enough. I mean, given market conditions at that time, perhaps one could construe that.

Q. When you say the rate is not high enough, you mean the rate is not high enough to interest people in purchasing the security?

A. That's right.

Q. Would it be fair to say that auction rate securities that have failed at auction would trade below par?

A. They could trade below par, but not necessarily.

Q. Would you expect such a security to trade below par?

A. That's an interesting question because one of the things that was interesting to me was that there were a large number, a relatively large number of securities that did not trade

J. Schwaba

below par even though there have been failed auctions.

Q. Failed auctions in those particular securities?

A. Yes, or like securities.

Q. Or like securities? Well, which is it? Have you identified particular transactions where there were trades at or above par in a security that had failed at auction?

MR. TAMBE: Object to the form of the question.

MR. DAKIS: Objection. Same objection.

MR. McCOUBREY: Same objection.

A. I'm sorry, repeat the question again.

Q. Sure. Have you identified particular transactions where there were trades at or above par in an auction rate security that had failed at auction?

MR. TAMBE: Same objection.

MR. DAKIS: Same objection.

MR. McCOUBREY: Same.

A. There was some definite analysis going on, but I couldn't give you specifics of that as

J. Schwaba

I recollect.

Q. What do you mean there was some definite analysis going on? Does that mean you were looking for such examples?

A. In our -- in our review of the market and the dynamics that were going on, I recollect that obviously there were failed or some failed auctions. It was a phenomenon going on in that time and place, and it was immediately -- it was very interesting to look at the prices, the market prices of those, and but I didn't -- I can't recollect at this time specific recommendations or specific points about those.

Q. So as you sit here today you're unable to identify for me any particular transaction of which you're aware where an auction rate security that had failed at auction sold at or above par?

MR. TAMBE: Objection to form.

Q. Is that accurate?

MR. DAKIS: Same objection.

MR. McCOUBREY: Same objection.

A. I can't answer that with regard to a specific security, to the best of my

J. Schwaba

recollection.

Q. Did you find examples of auction rate securities that failed at auction that traded below par?

A. To the best of my recollection, I can recall auction rate securities that were trading at par or below par in the best of my recollection. I couldn't answer one specifically right now.

Q. So we're clear, you said, "I can recall auction rate securities were trading at par or below par." Did you mean auction rate securities that had failed at their auctions?

A. Both ones that had failed and ones that had not failed.

Q. How far below par did the ones that had failed -- strike that. When you observed auction rate securities had failed at auction or were trading below par, what was the range of discount to par that you observed?

A. I don't -- I don't recall the specifics of that.

Q. And just so I'm clear, you do not recall finding any examples of an auction rate

J. Schwaba

security that had failed at auction that traded above par; is that correct?

A. No, I would not say that either.

Q. Well, do you recall such an example?

A. Of what?

Q. Of an auction rate security that had failed at auction that traded above par?

A. I can't recall the specifics of that at this particular point in time.

Q. Well, sitting here today, you have no idea whether you can come up with an example of an auction rate security that failed at auction that traded above par, is that accurate?

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Same objection.

MR. McCOUBREY: Same objection.

A. I don't recall -- I can't recall for you the specifics at this particular point in time.

Q. Do you have work papers that you could check to determine that?

A. There could be work papers that we have available or that would -- could show that

J. Schwaba

possibly.

Q. And what would those work papers be?

A. I'd have to go back and look at some of the specifics, but did we look at the municipal market? Absolutely, in terms of the dynamics of the auction rate market and what the market prices were.

Q. So I'm clear, your testimony is that you looked specifically to determine what the market prices for auction rate securities that had failed their auctions were; is that correct?

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Same objection.

A. That would be part of our analysis.

Q. In your opinion, what factors would influence whether a particular auction rate security that had failed at auction would trade at, above, or below par?

A. Say the question again, please.

Q. In your opinion, what factors would influence whether a particular auction rate security that had failed at auction would trade at, above, or below par?

J. Schwaba

A. There were a number of factors we looked at in terms of municipal auction rate securities, but basically the demand, we were very -- we were driven by market traded prices, and that was our chief consideration.

Q. The market traded prices that you used, are you referring to the 152 comparables that you selected?

A. Primarily.

Q. What else are you referring to?

A. Well, those were primary consideration, but there were also were the actual securities, we had any indication on those as well.

Q. Do you know whether any of the 152 comparable transactions that you selected involved auction rate securities?

A. Yes, a substantial -- a substantial portion of that 152, as I recollect, were auction rate securities.

Q. Is there anywhere in your work papers that identifies which are auction rate securities as opposed to other types of securities?

J. Schwaba

A. As I recollect, they do.

Q. Where would I find that in your work papers?

A. I couldn't tell you where you would find it right as we speak, but I believe they -- I can't recall exactly, but I believe they were as part of the information given out.

Q. Are you sure that these transactions were auction rate securities as opposed to adjustable rate securities?

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Same objection.

MR. McCOUBREY: Same objection.

A. I think we would have to define our terms.

Q. Sure, let's define our terms. Would it be fair to define an adjustable rate security as one where the interest rate is adjusted by some mechanism over time?

A. I would agree with that.

Q. And one of the potential mechanisms for adjusting interest rates is an auction process; is that correct?

J. Schwaba

A. I would agree with that.

Q. So can we agree on a definition of "auction rate securities" as adjustable rate securities whose adjustable rate is determined through an auction process?

A. I would accept that.

Q. Okay. So then using those definitions, my question for you, sir, is of your 152 examples, how many were auction rate securities?

A. My understanding is that they were virtually all, or close to being all, were auction rate securities.

Q. And what's the basis for that understanding?

A. The source of information that we got on those securities.

Q. What was the source of information you got on those securities?

A. The MSRB data.

Q. Is it your understanding the MSRB data identifies whether a particular transaction involved an auction rate security?

A. I can't recall exactly. I believe it

J. Schwaba

did, but ...

Q. If you're wrong about whether the transactions that you used as comparables included auction rate securities, what implications would that have for your opinions in this case?

MR. DAKIS: Objection to the form of the question.

MR. TAMBE: Same objection.

MR. McCOUBREY: Same objection.

A. I'm not sure I understand that question and how to answer it.

Q. Well, would you have any concern if the transactions you picked are not comparable -- strike that. Would you have any concern that the transactions you were using as comparables for valuing auction rate securities in the group of securities that you looked at were not appropriate comparables if the comparables you used were not auction rate securities?

A. Say that again, please.

Q. If the comparables that you used were not auction rate securities, would it concern

J. Schwaba

you that they might not be appropriate comparables for the actual securities you were valuing, some of which were auction rate securities?

A. So are you saying that the securities that we're valuing are auction rate or not auction rate? Are they adjustable or -- could you please --

Q. Let me back up. You valued a group of 26 CUSIPS; is that correct?

A. That's correct.

Q. In fact, it's really 24 distinct CUSIPS because two of them are valued twice, right?

A. Right.

Q. Do you know whether any of those were auction rate securities?

A. Yes.

Q. How many of them were auction rate securities?

A. My understanding is that there were 20 auction rate, or we refer to them as adjustable, but 20 were of that type, except there was one that was an OID adjustable or auction rate as

J. Schwaba

well and the dynamics of pricing for that were kind of a combination. But that's -- but basically what I'm saying is that my understanding is that the 19 were what you would term auction rate securities.

Q. Well, just so I'm clear, your testimony is that 19 of the securities you looked --

A. Twenty were labeled as adjustable rate securities, okay?

Q. Okay.

A. And that would be how many.

Q. And your testimony is that of those 20 that were labeled adjustable rate securities, 19 of them were auction rate securities or 20 were auction rate securities?

A. My understanding is actually that 20 were labeled as auction rate securities. The dynamics of how one, in my opinion, was priced would -- would make it a little bit unique in that respect, but definitely 19, and then 20 were labeled.

Q. When you say "labeled," where would they be labeled?

J. Schwaba

A. The source of our information.

Q. So that would be in your work papers?

A. I believe, I believe it would be located there.

Q. And if I understand you correctly, if I look at your work papers and I see that something is labeled is an adjustable rate municipal security, I should understand that to mean that it's an auction rate?

MR. TAMBE: Objection to the form of the question.

Q. Is that correct?

MR. DAKIS: Same objection.

A. You can draw your own conclusions. You know, I'm not sure --

Q. I don't want to draw my own conclusions. I want to know what your understanding is. You're the one who prepared the work papers or had them prepared for you, right?

A. That's correct.

Q. So when in your work papers a security is labeled adjustable rate, does that mean it's an auction rate security or you're not sure

J. Schwaba

whether it means it's an auction rate security?

MR. TAMBE: Objection to the form.

Which pool are you talking about? The ones that he valued or the --

MR. SHAW: The ones he valued.

A. My understanding is it is most -- the adjustable rate securities and auction rate securities were used somewhat interchangeably there.

Q. Well, if I put the list of 24 CUSIPS in front of you, sir, would you be able to tell me which ones are auction rate and which ones are adjustable rate?

A. I would be able to tell you which ones I believe to be auction rate, yes.

Q. We'll have a chance to do that a little later.

Would you expect a security with a history of repeated failed auctions to be more likely to trade below par than one that had only one failed auction?

A. If you're asking for my professional opinion, I would say other things being equal, I would agree with that.

J. Schwaba

Q. And why is that?

A. It would strike me as there would be less demand for the bond.

Q. Would you expect there to be a correlation between the length of time since the security was subject to a successful auction and the likelihood that such a security would trade below par?

MR. TAMBE: Object to the form of the question.

MR. DAKIS: Same objection.

MR. McCOUBREY: Same objection.

A. Say that again, please.

Q. Would you expect there to be a correlation between the length of time since a security was subject to a successful auction and the likelihood that such a security would trade below par?

A. Not necessarily.

Q. Why not?

A. Because of the, in our analysis and what we saw, in terms of valuing these securities, and especially through the use of the comparables and proxies, as we termed them,

J. Schwaba
there were a large, fairly large number of securities that were trading at or around par.
Q. How many of those comparables were auction rate securities that had failed at their auctions?
A. I don't have that specific answer.
Q. Is that something you looked at?
A. We looked at what had failed and what hadn't. We were aware of the failed auctions.
Q. When you say you were aware of the failed auctions, what do you mean?
A. When we were doing our analysis of a particular security, and I believe even in many of the comparables we were aware of auctions that were failed and those that didn't.
Q. So if I understand you correctly, when you were looking at possible comparables, you tried to determine whether they had been the subject of a failed auction?
A. I can't give you specifics on that. I do know we were primarily concerned with the price, the traded price in the marketplace.
Q. So as you sit here today, you cannot tell me whether you made any effort to determine

J. Schwaba
if any particular comparable had been subject to a failed auction?
MR. TAMBE: Objection to the form.
MR. DAKIS: Objection to the form.
Q. Is that correct?
A. I can't say that, no.
Q. So, just so I'm clear, you cannot say that you made any efforts to determine if any particular comparable had been subject to a failed auction; is that correct?
MR. TAMBE: Objection to the form of the question.
MR. DAKIS: Same objection.
A. No, I can't say that.
Q. Would you expect there to be any correlation between the length of time since a security was subject to a successful auction and the amount below par at which that security would trade?
A. Say that again, please.
Q. Would you expect there to be a correlation between the length of time since a security was subject to a successful auction and the amount below par at which that security

J. Schwaba
would trade?
A. Not necessarily. I -- one of the things that struck me, as I've said before, was the price of the security, the failed ones even, trading -- having traded prices at or around par.
Q. But you can't identify for me any particular comparable transaction that was the sale of a failed auction rate security; is that right?
MR. TAMBE: Objection. Asked and answered any number of times now.
MR. DAKIS: Same objection.
A. I can't give you that, but I'm not going to say that that didn't occur.
Q. But you also can't say that it did occur, can you?
A. (Witness nods.)
MR. TAMBE: Objection.
MR. McCOUBREY: Objection.
MR. DAKIS: Same objection.
Q. You need to answer orally, please.
A. Exactly, yes, I can't say it did or I can't say it didn't.

J. Schwaba
Q. Would it be fair to say that auction rate securities that failed at auction may be subject to restricted liquidity?
MR. TAMBE: Objection to form.
A. Would it be fair -- is your question would it be fair to say that they could be?
Q. No. Would it be fair to say that auction rate securities that failed at auction may be subject to restricted liquidity?
MR. TAMBE: Objection to form.
MR. DAKIS: Same objection.
A. That's a possibility, yes. It may -- that may happen. It could happen.
Q. Would you expect it to happen?
A. I would -- not necessarily based on our analysis.
Q. And what analysis precisely is that, sir?
A. The prices of market traded securities as it relates to auction rate securities who both -- both failed and didn't fail.
Q. For any given failed auction security what information would you look at to determine whether it was subject to restricted liquidity?

J. Schwaba

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Objection.

MR. McCOUBREY: Objection.

A. Say that again, please.

Q. Yes. For any given example of a failed auction rate security, what information would you look at to determine whether it was subject to restricted liquidity?

A. Well, in our analysis of securities, we would look both at the information contained in Bloomberg and we would look at information contained in the official statements to determine what some of those conditions were, if they applied or not.

Q. What do you mean by "some of those conditions were"?

A. I'm sorry, repeat that again in terms of your original question because --

Q. You said, "Well, in our analysis of securities, we would look both at the information contained in Bloomberg and we would look at the information contained in the official statements to determine what some of

J. Schwaba

those conditions were, if they applied or not," and what I'm asking is what are the conditions you're talking about?

A. As they relate to the manner in which those securities would be auctioned and as it relates -- as it potentially could relate to some of the conditions affecting liquidity.

Q. And did you draw any conclusions based on that analysis of the factors that would influence the extent or likelihood which the liquidity of such a security would be restricted?

A. To the best of my recollection, it was so individual. I mean, I'd like to be able to say that this, okay, they're all securities like this, but that they were -- had different characteristics, different -- different aspects about it.

Q. Would a period of time following a failed auction during which a security did not trade at all be an indicator that it was -- that that security was subject to restricted liquidity?

MR. DAKIS: Objection to form.

J. Schwaba

MR. TAMBE: Same objection.

A. Say that again, please.

Q. Would a period of time following a failed auction, during which the failed auction rate security did not trade at all, be an indicator to you that it was subject to restricted liquidity?

MR. DAKIS: Objection to form.

A. I would say, based on the way you phrased that question, that could be that.

Q. How would you go about determining -- strike that.

Will you please tell me what the market for auction rate securities was like in September of 2008?

MR. TAMBE: Object to the form of the question.

MR. DAKIS: Same objection.

A. Say that question again, please.

Q. Sure. Would you please describe the market for auction rate securities in September of 2008?

MR. TAMBE: Same objection.

A. Did you want my general commentary or

J. Schwaba

is it this is my opinion?

Q. You said you extensively researched what the market conditions were like in September of 2008 for auction rate securities, so I would like to hear your general views on that topic.

A. My general view was there was -- there was -- we were operating in a general market crisis at that time. There were a lot -- there was a lot of concern, a lot of nervousness in the markets. I think that what was interesting about it was, though, that there were still appeared to be -- there were certainly questions about some liquidity and questions about nervousness.

At the same time, there were -- not all securities were reacting to it the same way. There was even potentially some evidence among some people that there was -- there was a flight to quality of certain investors going into Treasuries and even some investors for a period of time going into some municipals. I remember -- I kind of recall that as being a particular element as well.

J. Schwaba

So there was a lot of nervousness in the market, I do recollect that very well, and there was at the same time, as I recollect, a fair amount of trading going on so that liquidity was a concern, but there were in some markets there was also a fair amount of activity going on in terms of trading activity.

Q. Just so I'm clear, when you say there was a fair amount of trading activity going on, are you talking specifically about auction rate securities?

A. I'm talking about what we're talking about being an auction rate or adjustable rate securities, that's right.

Q. Well, I'm asking specifically about auction rate securities now. What was your understanding of the conditions in the market for auction rate securities in September of 2008?

A. There was a fair amount of activity going on in terms of trading, as I recollect. I can tell you, based on our information, that on September 19, based on the information we have, there were 12,416 municipal securities traded,

J. Schwaba

of which 1,664 were labeled as auction rate securities.

Q. 1,66 --

A. Based on the -- based on the information that we had.

Q. They were labeled as auction rate securities or adjustable rate securities?

A. I don't -- I thought they were, but I could be -- I don't -- I believe they were -- we would label them adjustable rate securities, of which we believed they were mostly auction rate securities.

Q. And what's the basis for your belief they were mostly auction rate securities?

A. Based on the information that we derived from our sources.

Q. And what sources would those be?

A. The MSRB database, Access, Bloomberg rating systems.

Q. And were any records created of your determinations as to whether these were auction rate or adjustable rate or some other type of securities?

MR. TAMBE: Objection to the form of

J. Schwaba

the question.

MR. DAKIS: Same objection.

MR. McCOUBREY: Same objection.

A. We documented the evidence or the information that we got from those sources.

Q. And where would I find the documentation of that information, sir?

A. Well, what I'm saying is that we were verifying -- well, we got the information from those sources, as I said, and I don't recall specific documentation with regard to that, however, the analysis that we did accounted for our large -- the 152 that we used as proxies. So we were analyzing those 1,664, if you will, or out of that universe, and comparing different aspects of the bonds, of those municipal bonds to our 20, 19 to 20 ARS, if you will, to determine the commonalities between those and, on a qualitative basis, the correlative factors.

Q. Have you ever heard anyone describe the auction rate securities market in September of 2008 as essentially frozen?

A. I have heard that.

Q. Do you believe that's an accurate

J. Schwaba

statement concerning the auction rate securities market at that time?

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Same objection.

MR. McCOUBREY: Same objection.

A. I believe that it could have applied towards -- I mean that term is used. I believe it could have been applied to certain securities.

Q. Which securities could it have been applied to?

A. I couldn't give you specifics.

Q. Could it have applied to the 24 securities that you valued in your report?

MR. TAMBE: Objection to the form of the question.

A. I couldn't give you a specific answer on that.

Q. Well, one thing we know is that you did not find prices for any of those 24 securities; is that correct?

MR. TAMBE: Objection to the form of the question.

J. Schwaba

A. Actually, that's not quite correct. There were two securities, one of which I believe was an auction rate security, the other was a zero coupon that did trade on September 19.

Q. What auction rate security traded on September 19, sir?

A. I don't recall the specific one.

Q. Okay. I'll try and remember to ask you about that one when we pull out the list.

A. The source for that was investinginbonds.com.

Q. And when you valued that one, did you use that market price or did you use a proxy?

A. We used a proxy.

Q. Why did you use a proxy rather than the market price?

A. Because we wanted to be consistent in our application. We didn't want it to be construed as cherrypicking or we wanted a -- I wanted to use a methodology that I felt was to be consistently applied.

Q. And was the actual price of the transaction of that security on 9/19 higher or

J. Schwaba

lower than the price that you arrived at through your use of proxies?

A. I don't recall. I think -- I don't recall exactly. As I recollect, the actual price was at par, if I remember correctly, and I may not be remembering correctly, but if I did, I believe it was at par, and I can't recall specifically what the proxy price was.

Q. You stated at one point a few minutes ago that you noticed that there was a flight to quality. Do you remember that?

A. General market conditions in September of 2008, that would be correct.

Q. Did that flight to quality involve investors flying to auction rate securities?

A. I could not draw that specific conclusion, but my recollection is that some security -- some investors were moving to municipals, which theoretically could have included some auction rate.

(Recess; Time Noted: 10:36 A.M.)

(Time Noted: 10:47 A.M.)

BY MR. SHAW:

Q. Mr. Schwaba, I believe you said

J. Schwaba

earlier that you had observed a, quote, fair amount of trading in the adjustable rate municipal securities market in September of 2008, is that --

A. I think I --

MR. TAMBE: Objection to the form of the question.

You can answer.

MR. DAKIS: Same objection.

MR. McCOUBREY: Same objection.

A. I think I, as I recollect, and I'm -- I think there was a fair amount of trading going on in the municipal market.

Q. So are you saying then you did not observe a fair amount of trading in the adjustable rate market?

MR. TAMBE: Objection to form.

MR. DAKIS: Objection to form.

MR. McCOUBREY: Form objection.

A. I can't say that definitively. I believe that there was -- my interpretation was that there was a fair amount of trading going on in the ARS market as well.

Q. And when you use the term "ARS," do

J. Schwaba

you mean adjustable rate or do you mean auction rate?

A. We use adjustable rate, incorporating auction rate as well.

Q. And the evidence --

A. I do that. Excuse me.

Q. And the evidence that you have -- I'm sorry. Strike that.

And the basis for your statement that there was a fair amount of trading in the ARS market is that on the 19th you observed trading in a little less than 1700 ARS securities; is that right?

A. We did observe trading in the ARS market and we -- what I also heard anecdotally was that there was a fair amount of trading going on. In other words, the volume on that particular day was not necessarily all that different from, in terms of total volume, in the weeks and months previous and the weeks and months after, but I don't have -- I couldn't give you specifics on that at this particular point in time.

Q. So you wouldn't be able to tell me,

J. Schwaba

for example, how the volume on September 19, 2008 compared to the average ARS trading volume in, say, December of 2007?

A. I could not give you that, no.

Q. Or how it compares to trading today?

A. I could not give you that at this time.

Q. In fact, you have no idea how -- whether looking at it in historical terms, the volume of trading on September 19 was high or low?

MR. TAMBE: Objection to the form of the question.

MR. McCOUBREY: Objection to the form.

Q. Is that right?

MR. DAKIS: Same objection.

A. I could not give you that information at this time. I have had discussions about that, but I do not have -- I could not give you that at this time.

Q. With whom have you had discussions about that?

A. My counterparts.

Q. Your counterparts, meaning who?

J. Schwaba

A. My -- the staff that I've been working with.

Q. And who are the staff you've been working with?

A. I've used some resources, as I've indicated in my report, of Chicago Partners.

Q. And that was in place before you were retained to work on this matter; is that right?

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Same objection.

Q. They were already working on this matter before you were retained; is that correct?

A. I couldn't give you that information. I don't have that information.

Q. Had you previously worked with Chicago Partners?

A. I've worked with Mr. Nick Weir on a discussion basis prior to this.

Q. Have you worked with any of the individuals who have been providing you support services at Chicago Partners before this engagement?

J. Schwaba

A. No.

Q. Were you given the option of retaining other support personnel?

A. Say that question again, please.

Q. Yes. When you were retained to work on this, were you given an option to use people other than persons at Chicago Partners if you so preferred?

A. That's a hypothetical question because I understood the resources available and chose to employ them as outlined, but my interpretation would be if I want -- this is my project, this is my opinion. If I want to use an outside source, I have that option. That's the way I interpret that.

Q. And you think that's an appropriate arrangement for an expert, is that correct?

MR. DAKIS: Objection to form.

A. I'm being -- my role here is to provide an independent valuation, and I would -- I characterize that as doing whatever is in the spirit of that to carry that out.

Q. Are you aware -- well, actually, strike that. Did there come a point in time in

J. Schwaba

2008 when auction rate security auctions started to fail fairly regularly?

A. Based on the information that I saw, it appeared that failed auctions did start to increase, you know, in the time period you were talking about, in 2008, maybe even a little before that, as I recollect.

Q. So as far back as 2007 your recollection is that auctions started to fail at an increasing rate?

A. As I recollect, it was -- it was sometime in the period of time late 2007, definitely in 2008. I can't give a specific timeframe, but I do recollect that.

Q. By September of 2008, what percentage of auctions were failing?

MR. TAMBE: Objection to form of the question.

MR. DAKIS: Same objection.

MR. McCOUBREY: Same objection.

A. I don't have a specific number on that.

Q. More than 20 percent?

A. I would not be surprised if it were

J. Schwaba

more than 20 percent.

Q. More than 40 percent?

A. It could be.

Q. More than 60 percent?

A. I don't know.

Q. As much as 80 percent?

A. I don't -- I don't have a specific number on that.

Q. Are you aware that by September 2008 some investors in auction rate securities contended that they had been misled by the financial institutions from whom they had purchased such securities?

A. I do not have that specific information.

Q. Do you know whether any financial institutions faced lawsuits relating to their sales of auction rate securities to investors?

A. I don't have any specific information about that.

Q. Do you know whether there were any government or regulatory investigations ongoing into the practices of financial institutions that sold auction rate securities to investors?

J. Schwaba

A. I don't have specific information on that.

Q. Do you know whether any financial institutions responding to either relationship pressures or legal or regulatory pressures were buying back auction rate securities from investors at or near par?

A. I have public information to that effect. I had heard that.

Q. And that was true as of September 2008?

A. I don't recall the specific time, but it could have been on or around then.

Q. Do you know if such transactions would have been reported on MSRB?

A. I do not. I do not know that.

Q. Would you agree that a transaction where a financial institution is repurchasing auction rate securities from investors for a relationship or in response to legal or regulatory pressures are not arm's length transactions?

MR. TAMBE: Objection to the form of the question.

J. Schwaba

MR. DAKIS: Objection to form.

MR. McCOUBREY: Objection to form.

A. I believe that's an interpretation which I can't speak with authority about.

Q. Would you be at all concerned with using such a transaction as a comparable for purposes of valuing the securities that you in fact valued in this case?

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Same objection.

MR. McCOUBREY: Same objection.

A. I potentially could be concerned, but I'm not sure it would change the conclusions, any conclusion that I necessarily would have.

Q. But you're also not sure that it wouldn't; is that correct?

A. I'm not going to say that it would or it wouldn't.

Q. I'd like you to set aside for the moment securities that traded deep in active markets with frequent purchases and sales, okay?

A. With what? Excuse me.

Q. Securities that trade in deep and

J. Schwaba

active markets with frequent purchases and sales. So --

A. You'd like me to set that aside?

Q. For purposes of the next couple of questions. So we're not talking about Treasuries and we're not talking about equities issued by large Fortune 500 companies, okay? I want to focus on less liquid securities. Do you understand that?

A. (Witness nods.)

Q. You need to answer orally.

A. Yes, I do understand.

Q. Would you agree that for such less liquid securities a mark is an estimate of the value as of some date and time?

MR. TAMBE: Object to the form of the question.

A. It could represent that.

Q. If you don't have an actual transaction price for that security, would the mark necessarily be an estimate of its value?

A. If you don't have a -- if you don't have an actual trade for the security, a mark -- a mark could be construed as an estimate.

J. Schwaba
Q. Under what circumstances would it not be an estimate?
MR. TAMBE: Objection to the form of the question.
MR. DAKIS: Same objection.
A. It depends. Theoretically, it could depend on what the person or the entity or the institution putting out the mark was going to use it -- what it wanted to indicate.
Q. What is a mark?
A. Excuse me.
Q. What is your understanding of the term "mark"?
A. I guess I'd have to ask you that. What do you mean by "mark" in this instance?
Q. Didn't you define a "mark" in your report?
A. We've -- we defined actual traded prices. A transaction -- there was originally a bid and there was originally an offer and there's a transaction.
Q. And what is a mark in a circumstance where you do not have an actual transaction in that particular security?

J. Schwaba
A. It could be construed as an estimate of value of that security.
Q. Isn't it necessarily an estimate of the value of that security?
A. Excuse me?
Q. Isn't it necessarily an estimate of the value of that security as of a given date and time?
A. It could be construed as that.
Q. Was there any way to construe that it's not that?
A. It depends on what you want to use that mark for.
Q. How does it depend on what you want to use that mark for?
A. In my mind, a mark is an estimate of the value. It's an estimate.
Q. Okay. Have you ever taken a statistics course or an econometrics course?
A. Yes.
Q. Would it be fair to say that, speaking statistically, an estimate is virtually always subject to some degree of uncertainty?
A. I would agree with that.

J. Schwaba
Q. And so there's necessarily some margin for error; is that correct?
A. From a statistical perspective, I would agree with that.
Q. Have you done anything to quantify the degree of uncertainty surrounding any of the marks that you estimated in your work on this case?
MR. TAMBE: Objection to the form of the question.
A. Say that again, please.
Q. Have you done anything to quantify the degree of uncertainty surrounding any of the marks that you estimated in your work on this case?
MR. TAMBE: Same objection.
A. No, we have not.
Q. Are you familiar with the concept of confidence interval?
A. I am familiar with that.
Q. Are you able to quantify for me a 95 percent confidence interval around your estimates?
A. I cannot do that or haven't done that.

J. Schwaba
Q. Why not?
A. My choice was to use traded prices. It's not -- traded prices indicates to me an actual trade took place, and that's where the value of that particular security was.
Q. But just so we're clear, with the exception of perhaps 2 of the 24 securities you looked at, you did not observe any traded price for that security; is that correct?
A. I observed traded prices for proxies.
Q. And your selection of proxies required you to use judgment, is that fair?
A. That would be accurate.
Q. And would you agree that a reasonable valuation expert could disagree with some of your choices of proxies?
A. I would accept that that could happen.
Q. We've talked previously about how at least some people would describe in the auction rate securities market as essentially frozen around September of 2008; is that correct?
A. Yes, we did.
Q. It's not clear to me, do you agree that the market was essentially frozen at that

J. Schwaba

time?

A. Given the use of the term "frozen" and what it means in the auction rate securities, I could accept that there was some degree of -- that that condition could be used to describe the market.

Q. Well, just so we're clear, then, what do you understand the term "frozen" to mean in that context?

A. That basically there was little or no movement in terms of the auction rate securities markets in terms of basically a number or a large number of failed auctions and relatively little activity from an investment in the auction rate market.

Q. And would it be fair to say that, as a result of that, the quantity and quality of available information about prices for auction rate securities was thin?

MR. TAMBE: Object to the form of the question.

MR. DAKIS: Same objection.

MR. McCOUBREY: Same objection.

A. That could be an interpretation, but

J. Schwaba

there -- it would depend also from a larger perspective on the number of trades going on in the marketplace as well.

Q. In other words, you would determine whether the quantity and quality of information available was thin by reference to the number of trades going on in the marketplace?

A. Well, there are different aspects of the marketplace and should be weighed and evaluated.

Q. Are there any aspects in your opinion -- strike that. In your opinion, were there any aspects of the auction rate securities marketplace where the quality and quantity of available information about price was not thin in September of 2008?

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Same objection.

MR. McCOUBREY: Same objection.

A. I'm not sure I understand that question.

Q. In your opinion, were there any aspects of the auction rate securities

J. Schwaba

marketplace where there was a deep and active market during September of 2008?

A. Say that one more time, please.

Q. In your opinion, were there any aspects of the auction rate securities marketplace where there was a deep and active market during September of 2008?

MR. TAMBE: Objection to the form of the question.

MR. McCOUBREY: Same objection.

A. One could interpret the number of trades going on during that period of time as indicating more -- a fair amount of value and depth of the market than one would have originally suspected.

Q. And when you say that, you're referring specifically to the 1,664 trades and adjustable rate securities that you identified in your report?

A. And the 12,460 municipal securities traded on September 19.

Q. Do you have any idea of how the volume of municipal securities traded on September 19 compared to those trades historically over, say,

J. Schwaba

the preceding three years?

MR. TAMBE: Objection to the form of the question. Objection. Asked and answered.

Q. You can answer.

A. I could not -- I do not have that information given the way you phrased that question.

Q. Do you know how the volume traded on September 19, 2008 compared to, say, the average daily volume in 2007?

A. I do not.

Q. Would it surprise you if it was reduced by between two-thirds and three-quarters?

MR. TAMBE: Objection to the form of the question.

A. Of what? The volume -- are you saying the volume in 2007 would be less than 2008?

Q. No, I'm saying that the volume in September of 2008 would be between one-quarter and one-third of the volume in 2007.

MR. TAMBE: Objection.

A. I don't know whether I'd be surprised

J. Schwaba

or not.

Q. Would that have any implications for your analysis in this case?

MR. DAKIS: Objection to the form.

A. I couldn't necessarily say that. I think we would have to look at, you know, what the composition of that was as well, but...

Q. What do you mean, you would have to look at what the composition of that was?

A. Well, I'd like -- I would personally like to see more specifics with regard to that. I don't have that information.

Q. Would it be fair to say that valuation of auction rate securities was relatively difficult in September of 2008?

MR. TAMBE: Objection to the form.

MR. DAKIS: Same objection.

A. I'm not sure that I would necessarily come to that conclusion given the traded prices that we saw.

Q. So because you took a look at -- strike that.

When you say the traded prices that you saw, you're referring to the 1,664

J. Schwaba

adjustable rate securities that you observed being traded on September 19; is that correct?

A. That would be right.

Q. Okay. And you're not referring to anything else when you say that, right?

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Same objection.

MR. McCOUBREY: Same objection.

A. That is what I'm -- that was what my primary focus was.

Q. Is there a secondary focus?

A. Market conditions.

Q. And what were the market conditions?

A. General overall market conditions.

Q. So you would not agree that valuation of financial assets was particularly difficult in September of 2008?

MR. TAMBE: Object to the form.

A. I wouldn't say that at all.

Q. You would not -- that was a badly phrased question so let me make sure.

When you say you wouldn't say that at all, you mean you would not say that valuation

J. Schwaba

of many financial assets was particularly difficult during September of 2008?

MR. DAKIS: Objection to form.

Q. Is that correct?

A. Say that again, please.

Q. Sure. Is the following statement correct: Valuation of many financial assets was particularly difficult in September of 2008?

MR. DAKIS: Objection to form.

Q. In your opinion?

MR. DAKIS: Objection to form.

A. I'm not going to -- I'm not going to draw that necessarily conclusion.

Q. I'm focusing specifically on auction rate securities. Was that a particularly difficult time to value them?

MR. TAMBE: Objection to form.

MR. DAKIS: Same objection.

A. There were challenges with regard to going on in that market. I do know that.

Q. You yourself were not engaged in valuing auction rate securities in September of 2008; is that correct?

A. That's correct.

J. Schwaba

Q. And you yourself were not involved in valuing adjustable rate securities in September of 2008; is that correct?

A. That would be correct, except to the extent that we may have had them in our portfolio at the Federal Home Loan Bank, as we have discussed.

Q. You valued the securities that you valued as of September 19, 2008; is that correct?

A. Based on traded prices.

Q. I'm just asking about the valuation date. So you valued as of September 19, 2008; is that correct?

A. I'm sorry, I don't understand. Are you saying what did I value back in September 19, 2008?

Q. No, I'm not. I'm sorry. Let me try and be clearer.

The valuations that you reached were what you understood or what you have determined the values to have been as of September 19, 2008; is that correct?

A. Based on traded prices.

J. Schwaba
Q. Based on whatever methodology, the valuation date --
A. Was as of September 19.
Q. Okay. Why did you not value them as of September 22?
A. September 19, as I -- September 19, as I understood it, as I do understand it, is when the September 22 dated as of September -- or as of market as of September 19 was when this transaction occurred.
Q. When did the transaction close?
Before you answer that, when you say "this transaction," you're talking about the sale transaction between Barclays and the Lehman estate?
A. That's correct.
Q. Do you have any understanding of when that transaction closed?
A. My understanding is it closed on or about midnight on the 22nd, but I could be wrong on that.
Q. Do you know when title to the financial assets passed to Barclays?
A. I do not know that exactly.

J. Schwaba
Q. Do you know when it was on the 19th?
A. I do not know it specifically.
Q. Do you know whether it was on the 22nd?
A. I answered that before. I think that was my understanding, but again, I don't know.
Q. Are you offering an independent expert view that the proper valuation date is September 19?
A. Yes.
Q. What is the basis for that view?
A. My understanding of the -- my understanding of the transaction.
Q. What does that mean, your understanding of the transaction? What about the transaction leads you to believe that the 19th was the proper valuation date?
MR. DAKIS: Objection to form.
A. This is my understanding of when the sale occurred, as I indicated before. I think I answered that before.
Q. So your expert opinion that the 19th is the appropriate valuation date is based on your understanding that the sale occurred on the

J. Schwaba
19th?
MR. TAMBE: Objection to the form of the question.
Q. Is that right?
MR. DAKIS: Objection to form.
MR. McCOUBREY: Same objection.
A. My valuation has to do with the valuation of a select number of municipal securities as of a given date, and that date is September 19.
Q. And were you asked to assume September 19 was the appropriate valuation date or did you select that yourself?
MR. DAKIS: Objection to form.
A. Say that again, please.
Q. Yes. Did you yourself independently select September 19 as your appropriate valuation date, or were you asked to assume that was the appropriate valuation date?
A. My assumption was that that was the appropriate valuation -- valuation date.
Q. Well, was that an assumption that you independently arrived at or were you asked to assume that?

J. Schwaba
A. Part of my analysis I derived that that was the -- that September 19 was the appropriate date.
Q. And the basis for your decision that that was the case was the fact that you believed the transaction took place on the 19th?
MR. TAMBE: Objection to the form of the question.
MR. DAKIS: Same objection.
A. The transaction -- if we were going to provide a reasonable market value as it relates to the transaction, where would you go to find a reasonable market valuation, and the market -- the closest time of that market valuation would have been as of the close of September 19.
Q. When you say "closest," you mean closest time?
A. To a real market functioning.
Q. Wouldn't, by definition, close of market on September 22 be closer to midnight September 22 than the previous Friday?
A. Well, you could interpret it that way, but no market -- nothing ever -- nothing ever really happened. In my opinion, anyway,

J. Schwaba

professional opinion, it's better to take actual market data because you know exactly what happened. You don't know what happened after midnight on the 22nd.

If the deal closed -- if the deal did close on midnight on the 22nd, to say you were going to close as of the close of business on the 22nd, in my opinion, wouldn't be as appropriate as saying -- as taking the close on the previous trading day, which would be the close of the 19th.

I'll acknowledge that markets trade 24 hours, 24/7, but how much volume or liquidity are you going to get over a weekend and how much volume are you going to get in terms of overseas markets as well.

Q. Why does the amount of volume that you get matter to your opinion on that?

A. In my opinion, it's a better indication of the depth and breadth of the market, the volume traded, in my professional opinion.

Q. Did you make any effort to quantify the difference that valuation as of the 19th as

J. Schwaba

opposed to valuation as of the 22nd makes to the valuation of the particular securities you looked at?

A. No, I did not do that specifically.

Q. Did you examine the Lehman marks for the particular securities that you looked at?

A. The Lehman marks? I don't believe we did.

Q. What's your understanding of the meaning of the term "bid price"?

A. My understanding of the bid price would be the price at which buyers will be willing to pay for a particular security.

Q. Are the terms "bid price" and "exit price" essentially synonymous, as you understand them?

A. Not necessarily the same to me.

Q. In what way do they differ?

A. Well, I think it's, in my mind, an exit price is going to end up being part of a net transaction, theoretically. A bid price is what are you willing to pay for something. An exit price is the price at which -- what you would need to do to exit or to get out of the

J. Schwaba

market, and I think that they're all -- they're both -- I mean, I think there are some different interpretations there for those, those two terms. The most ascertainable aspect of value is where prices trade or traded prices are.

Q. Would a bid price ever be higher than exit price?

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Same objection.

A. I don't know. That's -- I couldn't answer that.

Q. Do you agree that it's appropriate for purposes of valuing these securities to focus on valuations at bid prices?

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Same objection.

MR. McCOUBREY: Objection.

A. Again, I say, you know, traded prices are the best indication, in my opinion. The bid price can become the traded price. You know, when the security trades, it's when a bid and offer come together.

J. Schwaba

Q. Would you agree that it's appropriate for purposes of the analysis of the value of the securities to focus on valuations at exit prices?

MR. TAMBE: Objection to the form of the question.

A. I don't -- I'm still -- I don't understand exactly what -- I have a problem with exit prices as a definition. I mean, I don't -- I guess I don't understand exactly what that means.

Q. So you're not able to define for me the term "exit price"?

A. I can attempt to define it, but I'm not sure -- it doesn't have the same certainty associated with it as a traded price.

Q. Okay. What do you understand an exit price to be?

A. To me an exit price would be the price at which I would get out of an existing security, and that could be my interpretation of what that price would be. It wouldn't be a traded price where an actual transaction took place.

J. Schwaba

Q. Are the values that you provide mid price values or bid or exit price values?

A. They're actual traded prices and they probably embody a combined bid and offer, bid price and offer price. That's where buyer and seller come together and agree on what the value of a particular security is through the mechanism of a traded price.

Q. Valuing a portfolio of securities for purposes of marking one's books pursuant to applicable accounting standards, is it necessary to mark them to exit prices?

MR. TAMBE: Objection to the form of the question.

A. I couldn't answer that question.

Q. Is it appropriate to value using exit prices?

MR. TAMBE: Same objection.

A. Again, I couldn't answer that question.

Q. In valuing assets, in valuing financial assets, is it necessary to adjust from mid to bid prices?

MR. TAMBE: Objection to the form of

J. Schwaba

the question.

A. Again, I couldn't answer that.

Q. Do you know how traders use the term "mid price"?

A. My understanding of "mid price" is it's the midway point or halfway point, if you will, between a bid and offer.

Q. And what is your understanding of how traders use the term "bid price"?

A. It's the price at which they would be willing to bid for a particular security or buy a security, a price at which they were going to pay or buy a security.

Q. And what's your understanding of what traders use as how traders use the term "ask price"?

A. Ask price or offer price is the price at which they would be willing to sell that which they already have in their position.

Q. And do you know whether your valuations are mid or bid?

A. My valuations are based on traded prices, and whether that was a mid price or a bid price, it's kind of hard to say because at

J. Schwaba

the point at which it's done, let's say the bid/offer is 5 bid at 7 or 5 bid at 8, I'm buying -- willing to bid at 5 and offer at 8, okay? Or let's say 5 -- 5 bid at 7. There's a market there, a bid/offer spread of 2 points. The midway point would be halfway between that, but I may as a trader decide you know what, I'm going to hit the bid, I got to get out of my position, so I might have talked about a mid price being, you know, 6 between 5 and 7, but I end up doing the trade at 5, okay? So was it -- is 5 -- 5 was at a midpoint.

Q. Is it possible that actual prices could have been at ask?

A. An actual price could, could end up being what the original bid price was or the offered price was. Could be.

Q. In valuing these securities, you did not make any adjustment from mid to bid?

MR. TAMBE: Objection to the form of the question.

Q. Is that right?

A. We ended up using the -- we ended up using the bid -- we called that the bid price,

J. Schwaba

basically, but it was basically the traded price.

Q. So the answer to my question is no?

MR. TAMBE: Objection to form.

Q. You did not make any adjustment from mid price to bid price?

MR. TAMBE: Objection to form.

MR. DAKIS: Objection to form.

MR. McCOUBREY: Same objection.

Q. Is that correct?

MR. TAMBE: Same objection.

A. I'm not sure I can answer that.

Q. What's your understanding of the implications of a failed auction for the interest rate coupon rate that the borrower must pay in the context of an auction rate security?

A. My understanding is that it could, depending on the individual security, the security could be auctioned at the maximum rate set.

Q. Is it your view that a high penalty rate on an auction rate security makes refinancing of that security attractive to the issuer?

J. Schwaba

A. I can't answer that, but based on what you say, I would not -- theoretically, I would say I agree with that.

Q. Do you know what portion of auction rate securities have experienced failed auctions have been redeemed voluntarily?

A. I don't have that information.

Q. In order to redeem an auction rate security, the issuer would need to have alternative financing in place; is that correct?

MR. TAMBE: Objection to the form of the question.

A. I could not necessarily make that assumption.

(Exhibit 697, Expert Report of Joseph Schwaba, marked for identification, as of this date.)

(Exhibit 698, Expert Report of Joseph Schwaba Errata, marked for identification, as of this date.)

(Recess; Time Noted: 11:33 A.M.)

(Time Noted: 11:38 A.M.)

BY MR. SHAW:

Q. Mr. Schwaba, showing you what has been

J. Schwaba

marked as Exhibit 697, do you recognize that as a copy of your expert report in this matter?

A. I do.

Q. Showing you what has been marked as Exhibit 698, immediately behind it, do you recognize that as a copy of the errata sheet prepared by you?

A. Yes.

Q. Looking at paragraph 8 of your report, page 2?

A. Yes.

Q. Do you see in the second bullet point you use the phrase "adjustable rate securities (hereafter 'ARS')"?

A. Yes.

Q. And I just want to confirm that you're using "ARS" to encompass all adjustable rate securities, including auction rate securities; is that correct?

A. (Witness nods.)

Q. You need to answer orally.

A. Yes.

Q. Now, in that bullet point you state that, "Barclays applied an arbitrary excessive

J. Schwaba

20 percent liquidity discount in determining the exit values of all but five municipal adjustable rate securities (hereafter, 'ARS')." Do you see that?

A. Yes.

Q. What do you mean by "arbitrary"?

A. Arbitrary would be a choice made in not necessarily related to the facts of the situation.

Q. Do you know how Barclays selected the liquidity discount that applied to municipal securities in this instance?

A. Do I know how Barclays did it?

Q. Yes.

A. I do not.

Q. So how do you know it was arbitrary?

A. It appeared -- it appeared to me to be arbitrary. Why, you know, why 20 percent? I'm not sure where that number came from.

Q. Turn to the next page, if you would, paragraph 9. Now, you define something you called the municipal portfolio as consisting of 26 securities with a principal value of 382 million and change; is that correct?

J. Schwaba

A. That's right.

Q. When you did your work in this case, did you look at only those 26 or did you attempt to value any other securities?

MR. TAMBE: Objection to the form of the question.

Q. Let me back up. Is it your understanding that those 26 securities are all of the municipal securities that Barclays acquired in this transaction?

A. No.

Q. So it's a subset?

A. It's a subset.

Q. And my question is the work you've done was valuing that subset, not the entire population of municipal securities Barclays acquired; is that correct?

A. There was an analysis done to initially delineate the 19 securities where there was a difference in custodial marks versus Barclays' marks of greater than a million dollars. Subsequent to that, I noticed that there were seven securities that were valued at one-tenth of a cent and that ended up comprising

J. Schwaba

the 26, if you will.

Q. So aside from identifying the 26 you were going to focus on, you did not analyze any of the other municipal securities that Barclays acquired; is that right?

A. I have not, no.

Q. Did anyone working for you do that?

A. No.

Q. Now, in the second sentence of paragraph 9, you state that, "These municipal securities consisted of 20 adjustable rate bonds." Do you see that?

A. Yes.

Q. And just so we're clear, you believe that all of those bonds were auction rate securities; is that correct?

A. I believe that to be true. The -- one of those 20, the adjustable rate OID, I would character -- almost characterize as kind of a hybrid because of the way it was structured.

Q. The adjustable rate OID security aside, the other 19 you believe were all auction rate securities?

A. I believe that to be the case.

J. Schwaba

Q. If you would turn to the Exhibit 2 to your report, please. Is that a listing of the 26 securities that you valued?

A. Yes.

Q. And as we previously discussed, there are in fact 24 distinct securities, but 2 were repeated, right?

A. That's right.

Q. Of these 26 securities, which are the 4 that you believe are not auction rate securities?

A. Well, there are three zero coupons, two fixed coupons, and there's a floating rate note, so that's six, and then there's -- so those would be the non-ARS. You've got -- I've got three in there and I can't match the CUSIP number up there, but three zero coupon bonds, two fixed coupon bonds, one floating rate bond. Okay?

Q. So that you've just identified six of them, correct? So what -- so when you say there are 20, you're essentially double-counting the 2 that were duplicates; is that right?

A. That's right, yes, that would be

J. Schwaba

correct, yes.

Q. So you think there are 18 distinct auction rate securities?

A. I think there's actually 17, I believe. Well, 18 including -- if you want to include the OID ARS.

Q. All right. Can you tell me which of those auction rate securities had failed auctions?

A. I cannot tell you that right now.

Q. Is there anything in your work papers that would enable you to do so?

A. I don't believe so. In our analysis we did look through them, but I don't believe I have that immediately available.

(Exhibit 699, a document bearing Bates Nos. LEH-NAVIGANT 026173 Purdue through IL, marked for identification, as of this date.)

Q. Showing you what has been marked as Exhibit 699, can you tell me what this document is, sir?

A. Yes, this is the document that shows how the number of proxies that were used for each particular adjustable rate security to

J. Schwaba

derive a value for that.

Q. Okay. So there would be in a listing -- there should only be then 18 pages to this document? In other words, it should exclude the ones that are non-adjustable rate securities; is that correct?

A. I believe so, yes.

Q. Let's look at the first page of this document. Looking at the first entry, is that one of the securities that you were actually valuing here?

A. That would be correct.

Q. And that's CUSIP 746189HG7; is that correct?

A. That's correct.

Q. Do you know whether that was an auction rate security?

A. I do not. I cannot tell exactly from here, but it's an adjustable, split adjustable.

Q. Okay. And therefore, you don't know whether that was a failed auction rate security?

A. I couldn't tell you that.

Q. Looking at your five comps here, are those the five CUSIPS that appear in the next

J. Schwaba

tier down on this sheet?

A. Yes.

Q. Can you tell me which of those were auction rate securities?

A. I cannot.

Q. Can you tell me which of those were failed auction rate securities?

A. I cannot.

Q. Can you tell me whether any of those transactions -- let me back up for a second.

You remember that we discussed earlier today that certain financial institutions were buying back auction rate securities from their customers for relationship or legal or regulatory reasons?

A. I recall you saying that.

Q. Are you able to tell me with respect to any of the five comparables that you selected whether it was such a transaction?

A. I cannot tell you that.

Q. Turning to page 2.

A. I would say it's interesting that they each are trading on or around par.

Q. You've got a column here, second

J. Schwaba

column here ---

A. I'm sorry, where you are you?

Q. Still first page, second column, "PX Last," do you see that?

A. Last price.

Q. Yes. And would that be a 9/19 price?

A. That is correct.

Q. Do you know for certain that there was in fact a transaction that took place on September 19, 2008 with respect to each of these securities?

A. My understanding is that those -- those were five traded prices on September 19, 2008.

Q. And that would have been drawn from the MSRB data?

A. That's right.

Q. Looking at the next page, if you would, and this shows CUSIP 7178182U1; is that correct?

A. That's right.

Q. And that's one of the securities you valued?

A. Yes.

J. Schwaba

Q. And you were not able to find an actual transaction price for that security, were you?

MR. TAMBE: Object to the form of the question.

Q. On the 19th?

A. We, as I indicated before, I wanted to stick to the methodology I created. After -- I don't recollect this is one of the bonds where there was an actual trade traded on 9/19, but apart from that, we wanted to stick to the methodology; I wanted to stick to the methodology that I created.

Q. You thought -- if I remember correctly, you think there was one of the auction rates or one of the adjustable rate --

A. I believe there was one, and if I see it, it might jog my memory here.

Q. If you see it --

A. This is not, to the best of my recollection, this was not one of them.

Q. Can you say for sure that this CUSIP was an auction rate security?

A. I cannot say for sure.

J. Schwaba

Q. Do you know whether it was a failed auction rate security?

A. I can't say that as well.

Q. And of the eight comparables you selected, can you tell me whether any of those were auction rate securities?

A. No.

Q. And you can't tell me whether any of them were failed auction rate securities?

A. That's correct. I will, if I may --

Q. Yes.

A. -- add the additional factor that the last price traded there was, again, on or above par.

Q. And you're referring to the entry 99.644 on the first line, or what?

A. I'm referring to the eight CUSIPS there.

Q. On the eight CUSIPS on the second tier, they're comparables, those are 9/19 prices, as far as you know?

A. That's right.

Q. In selecting your comparables, what criteria did you apply to determine what was an

J. Schwaba

appropriate comparable for any given security you were valuing?

A. You can basically get an indication if you look across there in terms of the type, the rating, both by S&P and Moody's, whether the callable and puttable features were -- existed, the purpose for which the bond, and of course, the basic type, whether it was revenue or GO, and I think we added geography in there as well as another factor.

Q. Did you examine the ratings of the comps?

A. We looked at the ratings of the comps. That was a factor.

Q. But you don't report the rates of the comps in your work papers, do you?

A. I'm sorry?

Q. You don't report any of those ratings in this spreadsheet, do you?

A. I don't believe we do, but we did look at it, but I don't -- I don't -- it's not in here.

Q. And then with respect to these eight comps, I take it you are also not able to tell

J. Schwaba

me how many of these were a result of non-arm's length transactions?

A. Were a result of what?

Q. Non-arm's length transactions? Where, for example, a --

A. I could not tell you that.

Q. And I take it the same thing would be true with respect to each of the other securities for which you got a security and then a list of comps on this document?

A. Yes.

Q. You can't tell me which ones are auction rate securities?

A. No.

Q. Can't tell me which are failed auction rate securities?

A. No.

Q. And you can't tell me which are non-arm's length transactions?

A. No.

Q. Looking at the seventh page of this document, sir, it's the one with really small type --

A. Oh.

J. Schwaba

Q. -- which is CUSIP 196479ME6, I believe.

A. Yes, it's the Colorado Housing & Finance Authority.

Q. Yes. And my question for you, if you look under "Product Name," it says 2007 B2 weekly FLT RT VRDN. What does the VRDN mean?

A. I believe it's variable rate demand note.

Q. Again, you don't know whether that was an auction rate security; is that correct?

A. No, although I would surmise that it probably is not based on the fact that it's a variable rate demand note. I could be wrong.

Q. Let's put Exhibit 699 to one side for the moment. Now, one distinction between each of your comps and, with possibly one or two exceptions, the securities you were actually valuing is that securities you were actually valuing were not trading, is that correct, whereas the comps, by definition, were?

A. With the exceptions that you and I were citing.

Q. Are you able to tell me with respect

J. Schwaba

to any of the securities you valued what the most recent trade date prior to September 19 was?

A. I cannot.

Q. Are you able to tell me with respect to any of the comp -- any of the securities that you valued what the next trade date after September 19 was?

A. I cannot.

Q. For any of the auction rate securities you examined did you analyze the fail rate formula?

A. I did not.

Q. Did you analyze any relevant caps, maximums or exclusions?

A. We did analyze --

I'm sorry, could you repeat that question previous again? I want to make sure I answered that correctly.

Q. Sure. For any of the auction rate securities that you examined did you analyze the fail rate formulas?

A. Actually, we did look at some of the fail rate formulas on an anecdotal when we saw

J. Schwaba
them in the screen shot analysis that we were using and/or the official statements that we had, and but they are not -- again, this was just general information we were taking in.
Q. So they're nothing you relied on in valuing these bonds -- or, these securities, rather?
A. Not based on the methodology you see here, that's correct.
Q. And did you analyze any relevant caps, maximums or exclusions?
A. We definitely analyzed or took note of what they were and were definitely tried to be as aware as possible of the caps and maximum rates for each of the securities.
Q. Did you analyze any of the look-back provisions?
A. As I recollect, no.
Q. Now, if you would take a look at Exhibit 697, which is your expert report, and again look at the section or, rather, Appendix II -- Exhibit 2, and there are seven securities here for which the value was 1/10 of a cent; is that correct?

J. Schwaba
A. That is correct.
Q. And is it your understanding that the way that Barclays arrived at those values was it accepted the BoNY valuations of those securities?
A. My understanding is that that is what I -- that is what was happening.
Q. So not just Barclays, but also Bank of New York valued each of those securities at that price; is that correct?
A. That's right.
Q. And I take it you disagree with the BoNY marks of those securities?
A. Yes.
Q. And you don't know whether Lehman valued any of those securities; is that right?
A. I do not know that.
Q. Are any of those securities Lehman-related, do you know?
A. I wouldn't know.
Q. So for 7 of the 24 bonds you examined you determined that BoNY had the wrong marks; is that correct?
MR. TAMBE: Objection to the form of

J. Schwaba
the question.
MR. DAKIS: Same objection.
MR. McCOUBREY: Same objection.
A. My response is that I looked at those and we came up -- we valued each of these securities. I valued each of these securities the way I thought was the most appropriate value, and that's what we did.
Q. And it's fair to say that the value you arrived at was substantially different from the values that BoNY arrived at for each of those seven securities, is that fair?
A. That would be correct.
Q. And does that give you any concern about the reliability of BoNY's marks for the securities that it valued?
MR. TAMBE: Objection to the form of the question.
A. That's to me, you know, given my expert opinion, that's -- what I'm concerned about is what the value should be on those particular securities.
Q. Okay. And by your estimation of the 24 securities that you valued, BoNY was wrong in

J. Schwaba
about 30 percent of them; is that right?
A. If you look at the seven securities, I would conclude that -- I would conclude that my marks -- excuse me, my value based on traded prices is a better value, is a correct value.
Q. And therefore, BoNY's valuation was incorrect; that's your conclusion?
A. I would conclude that my values are correct.
Q. So you wouldn't draw any conclusion about the BoNY valuations for the same securities that you valued at substantially more?
A. I'm not going to draw any conclusions on that.
Q. Why not?
A. Because I'm being -- I'm focusing on what I think the value of these securities are.
Q. So, in your view, the BoNY valuations could be completely correct; is that what you're saying?
A. No.
Q. And therefore, in your view, those values are incorrect, right?

J. Schwaba

A. I guess that would be correct then.

Q. Is there a range of appropriate valuations for these securities?

A. We tried to apply the same methodology with some appropriate modifications and then on the non-ARS securities, but these were based again on a number of factors we've talked about and these are the values that we -- that I think are correct.

Q. You're saying they're correct to the penny?

A. I would stand by it. I think they're -- I believe that they're correct.

Q. So what you're saying is when you valued the one with the CUSIP 841513LJ1 at 3,093,446 dollars and zero cents, that that is exactly correct?

A. That is what I believe to be the value of that security.

Q. And if someone reached a different valuation, in your view, that would be necessarily wrong; is that what you're saying?

A. I believe that my values are correct.

Q. And you believe that your values are

J. Schwaba

the only correct values?

MR. TAMBE: Objection to the form of the question.

A. I would not say that.

Q. And that's in part because your values depend on your selection of certain proxies, right?

MR. DAKIS: Objection to the form of the question.

MR. McCOUBREY: Same objection.

A. I have a methodology that I employ here.

Q. And your methodology relies upon the selection of appropriate proxies for valuation?

A. Proxies and/or comparables.

Q. How are you distinguishing between a proxy and a comparable?

A. A comparable in the calculation of the fixed and zero coupon and the floating rate note, we use conventional bond calculations, and the comparables are also factored in as well in terms of coming up with the valuations. So I'm -- you know, but those are the values.

Q. Let's just focus on the auction rates

J. Schwaba

for a moment. You didn't use any sort of model to value those, right?

A. No. We used the methodology as defined.

Q. And the methodology as defined is you selected what you believed to be comparable securities?

A. Right.

Q. And you looked at what they had traded at on the 19th?

A. Right.

Q. And you took an average of what those had traded at; is that correct?

A. Exactly.

Q. You didn't weight the average at all?

A. No.

Q. Did you analyze it for statistical significance?

A. No.

Q. Did you make any effort to determine how sensitive your analysis was to particular securities you selected?

A. I'm not sure I understand that particular question.

J. Schwaba

Q. If you changed any one comparable -- strike that.

And in selecting the comparable securities that you used, you acknowledge that you were using judgment; is that correct?

A. Yes.

Q. And would it be fair to say that a reasonable valuation expert could reach a different conclusion about the appropriateness of any particular comparable that you selected?

A. It would be possible.

MR. TAMBE: Objection to the form of the question.

You can answer.

MR. DAKIS: Objection to form.

Q. And if a -- and in selecting your comparables, you did not focus on whether any given comparable -- strike that.

In selecting your comparables, you did not take into account whether a given comparable was a failed auction rate security?

A. I did not.

Q. Don't you think it would be important to do so if the security you're valuing is a

J. Schwaba

failed auction rate security?

MR. TAMBE: Objection to the form of the question.

A. Well, we focused on traded prices, okay? So if you take a look at the traded prices, you can see what the traded prices are, and the marketplace was saying at that particular point in time, on September 19, that these traded prices, buyers and sellers were willing to establish prices for those based on actual transactions.

Q. Right, buyers and sellers were willing to establish prices for the comparables, right?

A. For the comparables.

Q. Okay. And in terms of looking at the comparables to determine whether they are useful indicators of what the security you're valuing would trade at, you need to be sure those comparables are in fact appropriate comparables, right?

A. That would be correct.

Q. Okay. And in determining whether those were appropriate comparables, even though you knew that some of the securities you were

J. Schwaba

valuing were failed auction rate securities, you did not make any effort to ensure that the comparables you were looking at were failed auction rate securities?

A. Actually, I don't -- the first part of your question I can't -- I don't know whether they were failed securities or not, so I'm not drawing a conclusion about that.

Q. Okay. Well, I'd like you to assume that some of them were failed auction rate securities, sir. If you assume that some of the securities you valued were failed auction rate securities, don't you think it would have been more appropriate to have ensured that the comparables you used for that security were also failed auction rate securities?

MR. TAMBE: Objection to the form of the question.

MR. McCOUBREY: Same objection.

MR. DAKIS: Same objection.

A. I think it's good information to know, but would I have differed from my conclusion? I can't necessarily say that.

Q. And you can't necessarily say that you

J. Schwaba

wouldn't have?

A. That's true.

Q. So to the extent that Barclays relied on BoNY marks, is it your view that that was improper valuation technique?

MR. TAMBE: Objection to the form of the question.

A. I don't want to make -- I'm not sure I would be -- I'm hesitant about making a conclusion about that, but those numbers are very suspect in terms of one-tenth of a cent value.

Q. What if the securities in question were Lehman-related securities?

MR. TAMBE: Objection to form.

Q. Would that have any impact in your assessment of whether the valuation assigned were appropriate?

MR. TAMBE: Same objection.

A. Well --

MR. DAKIS: Objection to form.

A. -- a one-tenth of a cent value is -- no, that would not. I would still be -- regardless of where these numbers came from, if

J. Schwaba

it were one-tenth of a cent, you know, that is -- that would -- that would capture my interest and attention.

Q. If you have a Lehman-related security and Lehman's just gone bankrupt, would that be something you should take into account in valuing that security?

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Same objection.

MR. McCOUBREY: Same objection.

A. My approach would be the same, I believe. I'd look at the security on its face and employ whatever appropriate valuation methodologies I felt were appropriate for that security and come up with a value, which I believe -- certainly I believe would be different than the one-tenth of a cent value placed on those securities.

Q. Might it also be different than the essentially 100 cents on the dollar valuation that you placed on many of those securities?

A. It could.

Q. But you didn't look to see whether any

J. Schwaba

of them were Lehman-related?

A. I did not.

Q. So you think that the appropriate valuation methodology is that the person doing the valuation should not just accept the BoNY marks but should evaluate them independently; is that your testimony?

MR. TAMBE: Objection to the form of the question.

A. I believe there should be an independent valuation.

Q. And it would be improper technique or improper methodology in your view simply to accept the BoNY marks; is that what you're saying?

MR. TAMBE: Objection. Objection to the form of the question.

MR. McCOUBREY: Same objection.

MR. DAKIS: Same objection.

A. I believe I was -- I am hired -- I am here to give, provide an independent valuation, and I would stick to that as close as possible.

Q. In the course of performing an independent valuation, your view is that it

J. Schwaba

would be improper simply to accept the BoNY marks; is that correct?

MR. TAMBE: Objection to the form of the question.

MR. McCOUBREY: Same objection.

MR. DAKIS: Same objection.

A. I believe that I should stick to my independent analysis, and if I see a mark or a value there, a dollar value of one-tenth of one percent, and I don't agree -- and obviously I don't agree with it, I'm going to come up with whatever my appropriate valuation is.

If somebody wants to interpret that that I don't agree with that, then I suppose that's their -- that's their right, I guess.

Q. What is your understanding of the process that Barclays used to value the municipal securities that it acquired?

A. Are you talking about these particular 26 securities?

Q. No, I'm talking about the entire portfolio of 562 of which these 26 are a part.

A. I would defer to my other experts on that. I don't have specific knowledge of those

J. Schwaba

particular securities.

Q. I'm not asking about those securities. I'm asking about the methodology that Barclays used to value the municipal securities that it acquired.

MR. TAMBE: Objection to the form of the question.

A. I can't speak with -- with any authority on those particular securities in terms of methodology.

Q. What about these 26, what methodology did Barclays use to value these?

A. I believe they were using the liquidity haircuts. I mean, they took a 20 percent haircut, uniform basis, applying it to each of those adjustable rate securities.

Q. Do you understand the concept of adjusting midpoint prices to exit prices?

MR. TAMBE: Objection. Asked and answered. We spent some time on this.

MR. DAKIS: Same objection.

MR. TAMBE: You can answer.

A. I guess I thought we discussed it before, but I don't --

J. Schwaba

Q. I was really just bridging back into a new topic.

A. Okay.

Q. So you recall we had a discussion about that?

A. Yes.

Q. Now, when you criticized Barclays for using a liquidity adjustment, do you reject the basic concept of the adjustment from mid to bid, or do you just reject the particular adjustment that Barclays used?

MR. TAMBE: Objection to the form of the question.

Q. Or both?

MR. McCOUBREY: Same objection.

MR. DAKIS: Same objection.

A. You know, to me I think you have to address each security in and of itself. I mean, you could -- even from a liquidity adjustment factor alone, is 20 percent of liquidity factor applicable or appropriate for all securities there?

Q. Well, do you understand that Barclays mid to bid adjustment was applied across a broad

J. Schwaba

portfolio of municipal securities, not just the 26 that you cherry-picked?

A. Yeah, I --

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Same objection.

MR. McCOUBREY: Same objection.

A. We didn't cherry -- we don't cherrypick anything.

Q. All right. Let me change the phrasing of that slightly.

Do you understand that Barclays' mid to bid adjustment was applied across a broad portfolio of municipal securities, not just the 26 that you valued?

A. That is my understanding.

Q. Do you have any understanding of whether that adjustment was intended to reflect an average across both higher quality and lower quality munis?

A. I did not.

MR. TAMBE: Objection to form.

MR. DAKIS: Same objection.

Q. Do you have any understanding whether

J. Schwaba

that was intended to be an average across more liquid and less liquid munis?

MR. DAKIS: Objection to form.

A. I do not.

Q. Did you consider the risk characteristics of the entire portfolio of munis that Barclays acquired in reaching your conclusions?

A. I did not.

Q. Are you an expert in fair value accounting?

A. No.

Q. Are you an expert in fair value measurement?

A. No.

Q. Are you an expert -- strike that.

Take a look at paragraph 8 of your report, if you would, please, sir. In the fifth bullet point you state that your values are based on observed market prices. Do you see that?

A. I'm sorry, where was that? Is that on page --

Q. Page 3.

J. Schwaba

A. Page 3.

Q. Second bullet point on that page. Do you see that?

A. Yes.

Q. And those are the prices that you pulled off MSRB for the comparable securities that you selected; is that right?

A. That's right.

Q. Are you aware that in 2008 there was a small secondary market in which holders of failed auction rate securities traded over-the-counter?

A. No, I'm not.

Q. So you didn't investigate prices for failed auction rate securities by looking at trades in the secondary market?

MR. TAMBE: Objection to the form.

MR. DAKIS: Objection to form.

MR. McCOUBREY: Same objection.

A. I believe we discussed that.

Q. I'm not sure we did, so could you answer my question?

A. I'm sorry, say the question again, please.

J. Schwaba

Q. So you didn't investigate prices for fail auction rate securities by looking at trades in the secondary market?

MR. TAMBE: Objection to form.

MR. DAKIS: Same objection.

Q. Correct?

MR. McCOUBREY: Same objection.

A. When we looked at analysis of the -- if we came across that, we did look at it, so I can't say categorically that I didn't look at it.

Q. Well, when you say you -- if you came across it, the only place you would have come across it would have been in the MSRB; is that correct?

A. Yes, we did some analysis on some of the Bloomberg in terms of information about those. So, I mean, I'm trying to -- I can't recall specifically, but I'm saying we may have come across that.

Q. Do you know whether on the secondary market failed auction rate securities were trading at a discount to par?

MR. TAMBE: Objection to the form of

J. Schwaba

the question.

MR. DAKIS: Same objection.

MR. McCOUBREY: Same objection.

Q. In September of 2008.

MR. TAMBE: Objection.

A. Again, say that again, please.

Q. Do you know whether in September of 2008 failed auction rate securities were trading on the secondary markets at a discount to par?

MR. TAMBE: Objection to form.

MR. DAKIS: Same objection.

A. I did not know that.

MR. McCOUBREY: Same objection.

Q. I take it you also do not know the range of discounts to par that were prevailing in those secondary markets?

A. That would be correct.

MR. TAMBE: Same objection.

MR. DAKIS: Same objection.

MR. McCOUBREY: Same objection.

Q. If there were reported trades of auction rate securities at substantial discount to par on the secondary markets at this time, is that something you would have wanted to analyze?

J. Schwaba

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Same objection.

MR. McCOUBREY: Same objection.

A. I would want to do -- I would want to have known the information. Would it have altered my analysis? I don't believe so.

Q. How can you say that without knowing what the information is?

A. I don't believe I would have.

Q. Why don't you believe you would have altered your analysis without knowing what the information is?

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Same objection.

MR. McCOUBREY: Same objection.

A. My methodology had a lot -- had almost everything to do with market traded prices. To the extent it would have affected those market traded prices, then it probably would have affected it. But it would have expressed itself in market traded prices, I believe.

Q. Well, what if there were trades in one

J. Schwaba

of your 24 CUSIPS on a secondary market at say a 70 -- at 70 percent of par, would that have influenced your opinions in this case?

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Same objection.

MR. McCOUBREY: Same objection.

A. I can't say that definitively, but I would have stuck to the methodology we embraced.

Q. So does that mean you would have ignored an actual trade in the security you are valuing and looked instead at securities that might or might not have been failed auction rate securities, trades in those?

MR. DAKIS: Objection to form. Mischaracterizes testimony.

MR. TAMBE: Same objection.

MR. McCOUBREY: Same objection.

A. Well, I think it sounds like a hypothetical situation you're suggesting, and so hypothetically I might have factored that in or perhaps not, but it sounds like this is a hypothetical that you're asking me about.

Q. Go to paragraph 9 of your report, if

J. Schwaba

you would, please. The last words there you say that, "All these bonds had maturities in excess of seven years and, based on the data I have reviewed, were investment grade." Do you see that?

A. Yes.

Q. Do you agree there's a range of credit ratings that fall under the category generally referred to as investment grade?

A. Yes, I understand that to be true.

Q. Were the securities you examined at the high end or the low end of that range?

MR. TAMBE: Objection to form.

MR. DAKIS: Same objection.

MR. McCOUBREY: Same objection.

A. They had -- the municipal securities I looked at were veering lower, but were still, as I recollect them, to be still investment grade.

Q. So they were at the lower end of the investment grade spectrum as you recall?

A. That's correct. Well, I wouldn't necessarily characterize that on a universal basis.

Q. That's your general impression?

J. Schwaba

A. That was my general impression.

Q. Okay. And did you take that information into account in your valuations?

A. I believe based on the methodology that we chose and were using, yes.

Q. And how did you take that into account in your valuation?

A. Well, we were looking at comparables and we were looking at ratings. The ratings were one of the variables involved.

Q. And what was your -- what selection criterion did you apply in determining whether the rating was too far off or too different for it to be an appropriate comparable?

A. It was a qualitative assessment per individual security. I mean, it depended.

Q. So it was an exercise of your judgment; is that correct?

A. It was partly judgment, that's correct.

Q. And in exercising judgment on questions like that, would you expect that someone who was actively involved in either trading or valuing assets in the market at the

J. Schwaba

time would be in a better position to exercise judgment than you are 18 months later?

MR. DAKIS: Objection to form.

MR. TAMBE: Objection.

A. I don't know.

Q. You concede that's a possibility?

A. I would concede that's a possibility.

Q. In paragraph 9 are you referring only to the 24 CUSIPS that you actually examined and not to the broader group of municipal securities that Barclays acquired?

A. Yes.

Q. And so you don't know whether those other municipal positions that Barclays acquired were also investment grade?

A. No.

Q. In selecting comparable securities, please tell me as precisely as you can the procedures and rules you used to identify them.

A. Say that again, please.

Q. What I'm asking you is to describe in as much detail as you can the process by which you selected the comparable securities that you used.

J. Schwaba

A. Well, I believe I indicated it in here in the report, but and I think we talked when we went over the variables that you saw on top in terms of the Exhibit 699, these were a range of variables that we -- that I viewed on a combined basis and made a qualitative judgment about whether these comparables applied and how they matched up with the particular municipal security selected.

I mean, whether they were the same geography or same type of bond, same basic type of bond, were their maturity structure, were they callable and puttable, there were roughly five to seven factors that went into the decision.

Q. Are there any other factors that went into the decision besides the ones that you just listed?

A. Or the ones that I mentioned, no.

Q. And when you say the ones you mentioned, are you referring to paragraph 23 of your report?

A. Well, I didn't mention -- I think when you see here it doesn't necessarily include

J. Schwaba

geography, but that is -- that was a factor as well.

Q. Okay. Well, if you look at paragraph 23 of your report, which is Exhibit 697, in the second sentence you say, "I began by determining the key characteristics of the bonds, including," and you list maturity, credit rating, geographic location, issue type and revenue sources, do you see that?

A. Yes.

Q. Were there any other criteria that you applied?

A. No, I would say that this is pretty much it.

Q. Okay. And did you have any fixed rules about when, you know, a particular security was too different in terms of geography, or was it a qualitative judgmental exercise?

A. It was a qualitative assessment.

Q. Why was it important to match the issue type, general obligation versus revenue bond?

A. I just felt like that was a, you know,

J. Schwaba

a good -- a prominent enough differentiation between a general obligation bond and a revenue bond.

Q. So you wouldn't want to use general obligation bonds as comparables for a revenue bond or vice-versa, is that fair?

A. Well, I don't recall, but there might have been some exceptions to that when you look through that. They could have been offset, but I can't recall with specificity here, but it could have been offset by other factors that were -- that would argue on that. It was just one of, as you can see, five or six or seven factors.

Q. All of which you threw into a hopper, exercised your judgment on, and made a call about which comps to use?

A. That's right.

MR. TAMBE: Objection to form.

A. Well, that's right.

Q. Paragraph 17 of your report, sir, you state that you're able to observe prices on 12,416 municipal securities that traded on September 19, do you see that?

J. Schwaba

A. Yes.

Q. Is that the total number of trades or is that the total number of unique municipal CUSIPS that traded on that day?

A. I believe that was -- I believe that was a total number of trades.

Q. And then in the next sentence you say, "Some 1,664 were adjustable rate municipal bonds"?

A. Yes.

Q. Do you see that? And that would be the total number of trades of adjustable rate municipal bonds that day?

A. I believe so.

Q. Paragraph 24 of your report, sir, you state in the second sentence, "Once I had determined that the proxy price was reasonable," you see that?

A. Yes.

Q. What do you mean by that?

A. That, relating to what we had talked about before, that the proxies were reasonable, provided a reasonable comparison to the specific security that we were valuing based on those

J. Schwaba

factors that we talked about.

Q. Did you take into account credit enhancement in determining your -- the comparability of --

A. Actually, credit enhancement was a factor that we valuated as well when and where we saw that information.

Q. How typical is it that an auction rate or adjustable municipal bond offers credit enhancement protection?

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Same objection.

MR. McCOUBREY: Same objection.

A. I can't recall.

Q. Did you ever know?

MR. TAMBE: Objection to form.

MR. DAKIS: Same objection.

MR. McCOUBREY: Same objection.

A. I can't recall that.

Q. Well, would it be fair to say that such securities are typically insured upon issuance or not?

MR. TAMBE: Objection to form.

J. Schwaba

MR. DAKIS: Same objection.

MR. McCOUBREY: Same objection.

A. Yeah, I -- I don't know.

Q. Can you tell me who the -- who a couple of the major insurers of auction rate securities were in September of 2008?

A. I can't say I know. AMBAC and MBIA.

Q. Any others?

A. I'm not ...

Q. Do you have any understanding of what the financial condition of AMBAC or MBIA were in September of 2008?

A. In terms of our analysis, we did read some -- came across some concern about that, but not -- nothing more than that.

Q. And did you take that into account when you were doing your valuations?

A. Yes.

Q. How did you take that into account when doing your valuations?

A. Well, I registered it as something to be mindful of when I'm looking through.

Q. So something that informed your judgment --

J. Schwaba
A. Yes.
Q. -- as to which comparables were appropriate?
A. That would be correct.
MR. SHAW: Why don't we take a short break.
(Luncheon Recess; Time Noted: 12:41 P.M.)

J. Schwaba
AFTERNOON SESSION
(Time Noted: 1:31 P.m.)
JOSEPH SCHWABA, resumed and testified further as follows:
EXAMINATION BY (Cont'd.)
MR. SHAW:
Q. Mr. Schwaba, if you would take a look again at your report, which is Exhibit 697, and specifically at Appendix II, Documents Relied Upon. If you look under the heading "Other Documents" about the middle of the page?
A. Uh-huh.
Q. Do you see that? You say you have Barclays Capital valuation methodology and it's got some Bates numbers associated with that, do you see that?
A. Yes.
Q. Apart from that document, in the course of doing your work on this matter did you review any other documents prepared in connection with Barclays' valuation of the securities it received in this transaction?
MR. TAMBE: Objection to the form of the question.

J. Schwaba
MR. DAKIS: Objection.
MR. McCOUBREY: Same objection.
A. I don't recall.
Q. The next item there is entitled "Review of Barclays Capital Price Testing Methodology and Framework" and it's got a Bates number that begins with PWC, do you see that?
A. Yes.
Q. Did, in the course of your work in this matter, did you review any documents relating to PWC's review of Barclays' price testing or its valuation of the securities it received in this transaction?
A. If it's the same document I think it was, I did read through it.
Q. Yes. And aside from that document, did you review any documents --
A. No.
Q. -- in reaching that decision?
The very last item on that page is entitled Schwaba, Market Inputs.pdf, do you see that?
A. Yes.
Q. Can you tell me what that document is?

J. Schwaba
A. My understanding is that's the information, some of the information we've been looking at today with regard to comparables, et cetera, some of the exhibits.
Q. Okay. And what about investinginbonds.com.xlsx, can you tell me what that is?
A. Yes, that's actually where we -- the Website that keeps track of municipal trades that were actually done in the marketplace, among other things, and when you and I were discussing -- we were talking about two trades we saw, that's where we got that information.
Q. Okay. And I guess my question is, as I understand it, the "xlsx" suffix indicates an Excel spreadsheet. Are you aware of an Excel spreadsheet that was downloaded from or populated with information from the investinginbonds.com that you relied on?
A. If I recollect clearly, I think that's where we -- it was downloaded to an Excel spreadsheet, I believe.
Q. Do you know if that document has been produced?

J. Schwaba

MR. SHAW: Do you know, Jay?

MR. TAMBE: I don't know the answer. We can check.

A. I have it in my binder.

MR. SPENCER: It has.

MR. TAMBE: It has been produced.

MR. SHAW: I would appreciate it if at some point you can identify for me which document that is and also which the Schwaba market inputs document is.

MR. SPENCER: Sure.

Q. Put that so one side. I show you -- if we could mark this as the next number.

Showing you a document -- showing you what has been marked as Exhibit 670, sir. Do you recognize that document?

A. I don't believe I do.

(Discussion off the record.)

(Exhibit 700, a document bearing Bates Nos. LEH-NAVIGANT 026165 Sheet 1, marked for identification, as of this date.)

Q. Mr. Schwaba, while we were off the record, we corrected the exhibit number so let me ask my question again.

J. Schwaba

Showing you what has been marked as Exhibit 700, sir, do you recognize that document?

A. I do not believe I do.

Q. Do you know if this is a document that you used in the course of preparing your opinions in this case?

A. It is not.

Q. Do you know if this is a document that was used by someone working under your direction in preparing your opinions in this case?

A. It could have been.

Q. Are you aware that if you used a model in the course of preparing any of your opinions in this case?

A. Yes, we have used a couple of models in terms of bonds.

Q. And which of the securities did you value the models?

A. I believe we used, on the fixed and zero coupon and OID, I think we used FINCAD and I think we used -- I think we might have use Polypath in terms of validating some of our curve construction.

J. Schwaba

Q. I take it you do not know what Exhibit 700 was used for?

A. That is correct.

Q. And then you don't know where it was obtained?

A. That's right.

Q. And you don't know how it works?

A. That's right.

Q. When you made use of models, did you personally examine the models?

A. No.

Q. Were you personally familiar with how the particular models you used worked?

A. No.

Q. Okay.

(Exhibit 701, a document bearing Bates Nos. LEH-NAVIGANT 026176 Floater, marked for identification, as of this date.)

Q. Showing you what has been marked as Exhibit 701, sir, tell me what this document is.

A. This is actually a, as I recollect, this is a valuation spreadsheet that we used, and I believe that was the -- that was to value the floating rate note, one of the CUSIPS we

J. Schwaba

have been talking about.

Q. And is this data that was input into a model, sir?

A. I think we -- I think there was some -- we used a combination of a model, but this was basically, I believe, our own work in terms of coming up with a value on the, like I said, one of the CUSIPS, which was the floating rate bond, I believe.

Q. How was the data that's listed on this exhibit used?

A. Well, it was used to construct the price, ultimately the price of the bond based on using the LIBOR forward curve. As I recollect, this particular security was -- I had a couple different pricing components. One was basically taking 67 percent of, in effect, three-month LIBOR plus adding in a spread of 57 basis points to it. So and that would be -- that would be how the coupon was set on an amounts due a periodic three-month basis.

Q. What does the abbreviation "OAS" in the second line stand for?

A. Well, the convention is option adjust

J. Schwaba

spread. We use it as kind of a term that factors in not only potential optionality but potentially credit, some type of credit spread that the particular security would have, and it's kind of an add-on feature that can account for the additional marginal risk of a particular security.

Q. If you look at the columns on the first page, you see "Date," "Years," "Spot"?

A. Uh-huh.

Q. And then something called "LIBOR PV," what does that stand for?

A. I believe it's LIBOR present value, I believe.

Q. If you turn to the last page, sir, you see up in the right-hand corner, upper right-hand corner, there are entries saying "Notes"?

A. Yes.

Q. It says, "These are continuously compounded zero rates bootstrapped from LIBOR and swap rates"?

A. Right.

Q. What does that mean?

J. Schwaba

A. This was a, is my understanding, this is what we used to fit a particular date for the security that you saw ahead of this, in terms of its dates, customizing it to reflect a LIBOR swap curve to fit that particular curve given the dates. It's basically an interpolation mechanism. It's a -- become a fairly conventional bond valuation mechanism.

Q. What is a LIBOR swap curve?

A. That is the -- the LIBOR swap curve is the term structure of interest rates not for treasuries but for basically euro dollars or London Interbank Offered -- LIBOR means London Interbank Offered Rate, and the LIBOR swap curve is basically a combination of the LIBOR curve and the interest rate swap curve extended on out from zero to basically 30 years. It's become a benchmark for valuing different types of bonds.

So what you might see when you talk -- when we talked about OAS, or option-adjusted spreads, you might see -- the benchmark might be the LIBOR curve, but a particular bond may be valued to yield let's say 15, as an example, 15 over the LIBOR benchmark or -- so it could be

J. Schwaba

said to have an option-adjusted spread of 15 basis points, as an example. That's my understanding of it.

Q. In the course of calculating these values, is there any application of judgment?

MR. TAMBE: Objection to the form of the question.

Q. Is it purely a mechanical calculation or is it something involves that --

A. It's mostly a mechanical calculation, except that one selection of an option-adjusted spread, and that's where comparables can come into play. So if you're looking at a bond that has, other things being equal, some comparables, you could make a judgment as to how much let's say OAS to add to that. So that's where the comparable effect. So there would be some degree of judgment there.

Q. And did you use comparables in arriving at the OAS, the 15 that was used here?

A. We did as more of a reference point and then factored in other -- and I believe in this we had -- we looked at comparables, and as I recollect, because we did a, I think some

J. Schwaba

FINCAD analysis in relation to this, and I believe it came out to be 12 or 13 basis points and so we factored in 15 basis points as an OAS, erring slightly on the side of conservatism.

Q. And would conservatism tend to make the value higher or lower?

A. I'm sorry, say again?

Q. You said you were conservative in your choice of --

A. That would make -- a higher OAS would make the price lower, yield higher.

Q. I think earlier you referenced the Polypass or Polypath model; is that correct?

A. Yes.

Q. Which is it, Polypass or Polypath?

A. Polypath.

Q. What is the Polypath model?

A. It's a bond valuation model. I don't know the intricacies of it. It's used to test bond valuation in different interest rates.

Q. Before your work on this particular valuation project, had you ever used the Polypath model?

A. I had not.

J. Schwaba

Q. What did you do to verify the Polypath model was an appropriate model to use for the purposes you used it in this project?

MR. TAMBE: Objection to the form of the question.

A. Polypath is one of the models that we use to test some of the data that we have in running through it, so I don't know if that answers your question or not.

Q. I think you also mentioned another model. It sounded like FINCAD to me.

A. Yes. FINCAD is a, again, another type of bond valuation, but more of a kind of a work -- interactive worksheet exercise that you use.

Q. Is that F-I-N-C-A-D?

A. That's right.

Q. And what's the source of the FINCAD model?

MR. TAMBE: Objection to the form of the question.

A. I'm not sure what the source of that is.

Q. Before this valuation exercise you've

J. Schwaba

done in this case, had you ever worked with the FINCAD model?

A. No.

Q. Did you do any of the work on the FINCAD model yourself?

A. No.

Q. What about the Polypath model, did you do any work yourself?

A. No.

Q. Did you review the work that was done on the FINCAD model, or did you simply incorporate it into your analysis?

MR. TAMBE: Objection to the form of the question.

A. I reviewed the output from it, much as like we're looking at here.

Q. When you say you reviewed the output, you mean you saw the value that it gave?

A. Yes.

Q. And did you in any way test whether that was an appropriate value?

A. We had done testing through the -- as part of our analysis and viewed how it stood up against, again, selected comparables. There was

J. Schwaba

a qualitative judgment there, though.

(Exhibit 702, a document bearing Bates Nos. LEH-NAVIGANT 026175 Muni, marked for identification, as of this date.)

Q. Sir, showing you what has been marked as Exhibit 702, can you tell me what this document is?

A. The cover page is -- the top four rows there or let's say the top four sections running horizontal are a set of comparables that we use in terms of valuing our zero coupon and fixed rate bonds. Again, the CUSIP numbers you see down below, the first three are zero coupons.

The next two -- well, the next one is a fixed rate coupon. The next one, the Park Center one, is the ARS OID that I've been talking about periodically, and Tennessee Housing is the other fixed rate bond.

So when you look at -- the key column to look at there is the CP Price. That's the Chicago Partners, that's our -- that's my price in terms of valuation, and if you look at the first one, for example, Dawson Ridge, Colorado and you look up top, you can see three so-called

J. Schwaba

comparables there. Two had an OIS of 110.8 and one of 6.2, respectively, and a third 54.9.

Q. So, just so I understand what's going on here, if we look at the bottom portion, in other words, is says an analysis of fixed coupon municipal bonds, do you see that?

A. Right.

Q. The first CUSIP there is number 239427AG2; is that correct?

A. That is correct.

Q. Dawson Ridge, Colorado. And the comparables you used for that are the three that appear above the first horizontal line in the upper section of this?

A. That is correct.

Q. So that would be E-470 Pub Highway Auth Colorado and the next two?

A. That's correct.

Q. And if you look underneath that horizontal line that we just looked at where you have Savannah, Georgia and Washington, Georgia bonds, do you see that?

A. Yes.

Q. Those would be comparable to the

J. Schwaba

Richmond County, Georgia --

A. That is correct.

Q. -- on the two values; is that correct?

And then beneath those you have got the two San Joaquin Hills bonds?

A. That's correct.

Q. And these would be your comparables for the San Joaquin, California bond you've got there?

A. That's right.

Q. And then below that you've got Regional Transn Auth Ill and New York State Dorm Auth Revs bonds, do you see those?

A. That's right.

Q. What were those the comparables for?

A. Those would be comparable for the two fixed rate bonds.

Q. And that would be the Park Center and Tennessee?

A. No, that would be the Southeast Texas Housing and Tennessee.

Q. And what were your comparables for the Park Center bonds?

A. The Park Center bond, it may not be --

J. Schwaba

there were four comparables as a reference point that we used that were the same, as I recollect, to the floating rate bond. And let's see, I think the second page you see is the same type of bootstrapping page that we saw for the previous bond over here, and then --

Q. I take it you're looking at a series of pages that have "Southeast Texas Called" in the bottom right-hand corner?

A. Well, there's a Southeast Texas Called and that's -- we valued it on a callable basis and these are the numbers in support of that, and we came up with a value of 103.77, which is slightly different from 103.92, but not by much.

We decided to be more conservative in that way and we -- the analysis is done -- it's not quite in the format it is here. You see "Southeast Texas Called," and after that you see "Southeast Texas Non-call" after that.

Q. Uh-huh.

A. There's a pretty much appreciable difference in price, and given, as I recollect, the other aspects of the bond, we defaulted to using the option adjusted spread on both the

J. Schwaba

Southeast Texas bond and the Tennessee Housing and two fixed, which was an average of those two up here you see on the first page. Okay, you see the 35 -- if you look at the OAS, the Regional Transportation Auth Illinois and the Illinois State Dorm, those were our comparables to those two fixed. We decided to default to using that average OAS for those two, so that would apply to both Southeast Texas Housing and Tennessee Housing, notwithstanding the analysis we did for that.

Q. Look at the last page of this document.

A. Okay, the last page of the document refers to the Park Center, which was -- and I'm glad the explanation got here -- Park Development from a valuation perspective we decided to treat as a bullet maturity. Right now it pays a coupon of 1.863, which is well below the LIBOR curve, but on April 14, 2014, that coupon is going to jump to 6 percent, well above the LIBOR forward of 459. On that basis, we could justify it's probably a larger OAS to that, and because it's callable at any time

J. Schwaba

after 4/15/12, we decided to treat it realistically as -- and plus, there's a sinking fund that begins as well, that's not significant, but the -- we decided to treat it as a bond maturing at 4/15/2014 with a current coupon of 1863 and, therefore, I used a price of 86.98, which reflects that OAS 50 that you see there.

Q. What do you mean by a bulletin maturity?

A. Bullet maturity, a bullet maturity means it's a three-year bullet maturity, meaning it matures in three years. Everything stops then. Principal is due. No more coupon payments. And came up with, again, with a price of 103 -- excuse me, 86.98 on that Park Center, which was -- that was the OID ARS, okay.

Q. Uh-huh.

A. And what's interesting about that is we actually had four, as I recollect, we had three or four comparables, but they didn't seem to have any overt bearing to how this -- how this is priced, so we decided we wanted to take the more conservative route and price it

J. Schwaba

accordingly.

Q. Other --

A. What's interesting about it also is that, well, if you -- you compare it to both Barclays' and BoNY's as -- you can see that it's not all that -- actually, it's not that really different from what Barclays said here in terms of their -- and BoNY, they're pricing it at 100, so...

Q. I just want to confirm, that bond, when you treat it as paying below LIBOR, is that correct, throughout its expected lifespan?

A. Right.

Q. And yet you price it above par; is that right?

A. No, Park Center wasn't -- no. No, that's -- Park Center was -- is below.

Q. Below par?

A. That's 86.98.

Q. I guess that's why I asked the question.

A. The Southeast Texas Housing is at the 5.36 cent coupon and that's priced at 103.77.

Q. And if you take a look at Exhibit 699,

J. Schwaba

which is your errata sheet, the first CUSIP for which you change the values was the 700404AA4 CUSIP; is that correct?

A. I believe so, yes.

Q. And that is the Park Center bond?

A. That would be, right.

Q. Okay. And that reflects that you reduced your valuation of that bond by, if I remember correctly, around $2 million; is that correct?

A. There was a transposition error I think between the Southeast Texas Housing -- I'm trying to remember if that was the one -- and this center --

MR. TAMBE: Is there a question pending? I'm not sure.

MR. SHAW: He seemed to be going through --

A. I'm sorry, so your question is again?

Q. I think you've answered my question.

A. Okay.

Q. It's just I thought you seemed to be looking at something else.

Who is your current employer, sir?

J. Schwaba

A. I'm self-employed.

Q. Are you not working for Schwaba & Associates anymore?

A. Well, I'm not calling it Schwaba & Associates. Joseph Schwaba.

Q. Functionally, it's Schwaba & Associates without the associates?

A. That's actually, yes, pretty true.

(Continued on the next page to include the jurat.)

J. Schwaba

Q. Why did you leave the Federal Home Loan Bank of Pittsburgh?

A. There was a reorganization at Federal Home Loan Bank and, you know, I got basically reorged out, if you will, and so that was what happened.

MR. SHAW: Thank you very much for your time, sir.

THE WITNESS: Thank you.

(Time Noted: 2:03 P.M.)

oOo

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JOSEPH SCHWABA

Subscribed and sworn to
before me this day
of 2010.

____

CERTIFICATE

STATE OF NEW YORK)
: ss
COUNTY OF NEW YORK)

I, Kathy S. Klepfer, a Registered Merit Reporter and Notary Public within and for the State of New York, do hereby certify:

That JOSEPH SCHWABA, the witness whose deposition is herein before set forth, was duly sworn by me and that such deposition is a true record of the testimony given by such witness.

I further certify that I am not related to any of the parties to this action by blood or marriage and that I am in no way interested in the outcome of this matter.

I further certify that neither the deponent nor a party requested a review of the transcript pursuant to Federal Rule of Civil Procedure 30(e) before the deposition was completed.

In witness whereof, I have hereunto set my hand this 12th day of April, 2010.

INDEX

NAME OF CASE: In re: Lehman Brothers
DATE OF DEPOSITION: April 12, 2010
NAME OF WITNESS: Joseph Schwaba
Reason Codes:
1. To clarify the record.
2. To conform to the facts.
3. To correct transcription errors.

Page ______ Line ______ Reason ______
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Exhibit J

UNITED STATES BANKRUPTCY COURT
SOUTHERN DISTRICT OF NEW YORK

In re:	Chapter 11
LEHMAN BROTHERS HOLDINGS INC., *et al.*,	Case No. 08-013555
Debtors.	(Jointly Administered)

Expert Report of

Joseph Schwaba

March 15, 2010

Table of Contents

LIST OF EXHIBITS AND APPENDICES

I. INTRODUCTION

1. This report is submitted by Joseph Schwaba. I am an independent consultant working with Navigant Economics (Chicago Partners), a subsidiary of Navigant Consulting, Inc., which specializes in the application of accounting, economics, and finance to business consulting, legal, and regulatory issues.

2. I have been asked by counsel for the Movants to undertake a valuation of certain of the municipal securities Barclays' acquired as part of the Sale Transction.[1] Relatedly, I also reviewed the methodologies, procedures, and data Barclays used to value these same municipal securities and reviewed Barclays' expert Professor Paul Pfleiderer's report, dated January 8, 2010 (hereafter the "Pfleiderer Report"), which approves Barclays' methodologies, procedures, and data.

II. SUMMARY OF QUALIFICATIONS

3. My main area of expertise is in fixed income capital markets, including expertise in municipal bonds.

4. Before beginning my career in banking and fixed income capital markets, I graduated from the University of Notre Dame in 1967 with a degree in Economics. After serving as an officer in the US Marine Corps, I received an MBA in Finance from the Kellogg Graduate School of Management at Northwestern University in Evanston, Illinois.

[1] I submit this report on behalf of (a) Lehman Brothers Holdings, Inc. (the "Debtor" or "LBHI"; (b) James W. Giddens, as Trustee for the Securities Investor Protection Act Liquidation of Lehman Brothers Inc. (the "Trustee"); and (c) the Official Committee of Unsecured Creditors of Lehman Brothers Holdings, Inc. and its affiliated debtors and debtors in possession (the "Creditors' Committee," together with LBHI and the Trustee, the "Movants") in connection with Movants' motions filed under Federal Rule of Civil Procedure 60(b) (the "Rule 60(b) Motions"). In the Rule 60(b) Motions, Movants' seek relief from the Order Under 11 U.S.C. §§ 105(a), 363, and 365 and Federal Rules of Bankruptcy Procedure 2002, 6004 and 6006 Authorizing and Approving (A) the Sale of Purchased Assets Free and Clear of Liens and Other Interests and (B) Assumption and Assignment of Executory Contracts and Unexpired Leases, dated September 20, 2008 (the "Sale Order"). In the Sale Order, the Court approved the sale (the "Sale Transaction") of certain assets of LBHI, LB 745 LLC, and Lehman Brothers Inc. ("LBI," and together with LB 745 LLC and LBHI, the "Sellers," and together with LBHI's various other foreign and domestic affiliates, "Lehman") to Barclays Capital Inc. ("Barclays") in accordance with the terms set forth in an Asset Purchase Agreement, dated as of September 16, 2008 ("Asset Purchase Agreement") and related agreements, modifications and purported "clarification[s]" thereof.

5. After managing profitable businesses in the fixed income and derivative markets at firms such as AG Becker (since merged into Merrill Lynch), Prudential-Bache Securities (now Prudential Financial), and Continental Bank (since acquired by Bank of America), I started my own institutional advisory business which focused on market-based risk management in the fixed income capital markets, which included managing a wide range of projects related to fixed income and derivative products, as well as providing some expert testimony. Most recently I was a Director of Corporate Risk Management at the Federal Home Loan Bank – Pittsburgh.

6. Chicago Partners charges an hourly rate of $580 for my time. Other Chicago Partners professionals, working under my direction and supervision, assisted in my analyses and Chicago Partners was or will be compensated for their work at their customary hourly rates. Our compensation is not contingent in any way upon the outcome of this matter.

7. My experience is described in more detail in my curriculum vitae, which is attached as Appendix I.

III. SUMMARY OF OPINIONS

8. My analysis of Barclays' valuation of the municipal securities acquired in the Sale Transaction results in the following conclusions:

- Barclays undervalued the municipal bonds it acquired from Lehman by at least $152 million.
- Barclays applied an arbitrary and excessive twenty percent "liquidity discount" in determining the "exit values" of all but five municipal adjustable rate securities (hereafter "ARS"). The market for municipal bonds on September 19, 2008 did not support across-the-board haircuts of this magnitude. In fact, many comparable municipal securities were trading at or close to par.
- Barclays priced the remaining five ARS, one fixed rate municipal bond and one $75 million floating rate bond at close to zero when, in fact, their market values were $43,295,720, $3,093,415 and $61,336,500 respectively.

- Barclays' valuations are further flawed by their inappropriate use of September 22, 2008 as the valuation date.

- My valuations are based on observed market prices for comparable municipal bonds on September 19, 2008. As a result, they are better measures because they are based on actual traded prices.

- The Pfleiderer Report erred by accepting Barclays' flawed exit values for municipal bonds, and its opinions should be disregarded.

IV. OPINION AND BASES THEREOF[2]

Opinion 1: Barclays' Exit Value Marks Are Incorrect And Represent A Lack Of Proper Analysis And Calculation

A. COMPOSITION OF THE MUNICIPAL PORTFOLIO AND BARCLAYS' EXIT VALUE

9. Barclays acquired a municipal bond portfolio (hereafter the "Municipal Portfolio") of twenty-six securities with a principal value of $382,353,446.[3] These municipal securities consisted of twenty adjustable rate bonds, one floating rate bond, three zero coupon bonds, and two fixed rate bonds. All of these bonds had maturities in excess of seven years and, based on the data I have reviewed, were investment grade.

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[2] My analysis in this matter is ongoing and I reserve the right to supplement my analysis in response to any newly produced evidence or in rebuttal to any further opinions offered by Barclays' witnesses. I also reserve the right to do a more comprehensive CUSIP-by-CUSIP valuation, if necessary, of those securities I did not independently value for purposes of my report. In reaching my opinions, I have conducted my valuation of the securities based on closing prices on September 19, 2008 for settlement on that date. I have reviewed the available data regarding market conditions from the close of business in the United States on Friday, September 19, 2008 to the opening of business in the United States on Monday, September 22, 2008 and have concluded that any valuations which are based on closing prices on September 19, 2008 would not change materially.

[3] There are twenty-six municipal bonds that make up the "Municipal Portfolio". Nineteen are municipal bonds that were a part of the Sale Transaction on September 22, 2008 that had a dollar value difference greater than $1,000,000 between the absolute value derived by BoNY and that of Barclays. Seven represent an analogous grouping of municipal bonds that are all priced at one tenth of a cent and are attached to the bottom of the "Rates" tab of BCI-EX-0099519 (Dep. Ex. 86B). This analogous group drew my special attention in addition to the nineteen that exceeded the $1,000,000 threshold.

10. Barclays' value for the Municipal Portfolio (hereafter "Barclays' Exit Value") was $191,220,214.[4]

11. Barclays applied a uniform twenty (20) percent liquidity discount to fifteen of the twenty ARS in the Municipal Portfolio, and valued the remaining five (5) ARS at close to zero (i.e., one tenth of a cent per $100 face value). In addition, Barclays valued the Massachusetts Floating Rate Bond (hereafter the "floating rate bond")[5] at close to zero (i.e., $750, or one tenth of a cent per $100 face value). However, despite the magnitude of these mark downs, I have not seen a basis, documentation, or any justification for this pricing approach.

12. Given the number of municipal bonds traded on September 19, 2008, and after reviewing the related pricing data, I conclude that these haircuts were excessive and without proper justification, regardless of any perceived concerns regarding liquidity in the marketplace.

13. Market conditions on and around September 19, 2008 undoubtedly affected the liquidity of municipal securities. However, such concerns should have been reflected in their market prices. As a result, I believe that the securities' actual market prices on September 19, 2008 are the best indicators for valuing the Municipal Portfolio. In fact, many comparable municipal ARS were trading at or close to par, which does not support Barclays' twenty percent across-the-board haircut or a price of one tenth of a cent.

B. <u>INDEPENDENT VALUATION OF MUNICIPAL PORTFOLIO</u>

14. I have conducted an independent valuation of each of these twenty-six municipal bonds.

15. In my opinion, based on actual traded prices these bonds had a value of $343,303,233 on September 19, 2008. Barclays' Exit Value for these bonds was $191,220,214, or $152,083,019 less than my independent valuation.[6] This $152,083,019 difference represents the extent to which the Barclays' Exit Values underestimated the value of the Municipal Portfolio at the time of the Sale Transaction.

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[4] The Barclays' Exit Price marks for the twenty-six CUSIPS comprising the Municipal Portfolio can be found in underlying spreadsheets rolling up to Barclays' Sale Transaction balance sheet. BCI-EX-0099519 (Dep. Ex. 86B).
[5] See Appendix III for a breakdown of my methodology.
[6] The results of my valuation are summarized in Table 1 and are attached to this Report as Exhibit II.

Table 1				
Bond Type	**# of Bonds**	**Correct Valuation**	**Barclays' Exit Value**	**Valuation Difference**
Municipal Bonds	**26**	**$ 343,303,233**	**$191,220,214**	**$152,083,019**

16. My prices, unlike Barclays', are based on observed market prices for comparable securities on September 19, 2008. My use of actual market prices to value municipal bonds explains most of the differences between my valuations and Barclays' Exit Values for these same securities.

17. Using data available from the Municipal Securities Rulemaking Board ("MSRB"), accessed by means of Bloomberg Research systems, I was able to observe prices on 12,416 municipal securities that traded on September 19, 2008. These securities had an average price of 99.05. Some 1,664 were adjustable rate municipal bonds, which traded at an average price of 99.89. Many of these bonds had characteristics that were very similar to ARS that were part of the Municipal Portfolio, and thus served as appropriate proxies for my valuations.

18. $83,631,151 of the difference between my valuations and Barclays' can be attributed to my use of market prices that were at or close to par for the ARS. These market prices reflect the price of similar municipal ARS that traded on September 19, 2008. While there were concerns regarding liquidity, the large number of trades on that day clearly demonstrates that markets were functioning and that buyers and sellers could find opportunities to trade at market prices. Thus, market data provides the best and most accurate way to assess the value of the Municipal Portfolio under these market conditions.

19. Based on my analysis of these comparable securities, I conclude that the ARS in the Municipal Portfolio had a value based on actual traded prices of $242,287,584 on September 19, 2008.

20. Another $61,335,750 of the difference between my valuations and Barclays' can be attributed to my use of market data in my valuation of the floating rate bond. This floating rate bond had a notional amount of $75,000,000, but was priced by Barclays at a level of one tenth of

a cent. However, based on widely accepted bond valuation methods, benchmark interest rate data, and market price data on comparable bonds that traded on September 19, 2008, I conclude that this bond is accurately priced at a level of 81.78, given market conditions at that time.

21. Barclays based its price for the floating rate note on the Bank of New York's (hereafter "BoNY")[7] valuation ($750, or one tenth of a cent.) However, based on the production documents I have reviewed[8], Barclays seems to have obtained—but rejected—a separate, third-party price of 71.56 made through Financial Times Interactive Data (hereafter "FTID") that would have led to a valuation of $53,667,000, which is similar to my value of $61,336,500. The only instances in the Municipal Portfolio in which Barclays accepted BoNY's valuations were for the seven municipal bonds (the floating rate bond, one fixed rate bond and five ARS) that were priced by BoNY at one tenth of a cent. This once more reveals a lack of proper analysis and calculation by Barclays, and is an example of Barclays' picking and choosing values subjectively.

22. Finally, $7,166,118 of the difference between my valuations and Barclays' can be attributed to my use of market data to price the three zero coupon bonds and two fixed coupon bonds.

23. My valuation approach is fully consistent with industry practices. I began by determining the key characteristics of the bonds, including their maturity, credit rating (as of September 19, 2008), geographic location (defined by issuer and municipality), issue type (General Obligation vs. Revenue Bond) and revenue sources. I then used this data to identify bonds that could serve as "proxies" for these securities. Out of the 1,664 municipal ARS that traded on September 19, 2008 and had the requisite data, I selected one hundred fifty-four trades to use as proxies. In selecting these proxies, I attempted to find securities that matched the characteristics of the bonds of the Municipal Portfolio as closely as possible. The number of proxies that I used to value a given security ranged from a low of three to a high of twenty-four, with an average of eight and a half.

24. Once I had constructed a proxy bond universe for each bond in the Municipal Portfolio, I obtained the traded market prices of the underlying securities, and calculated the mean for each

[7] BoNY is the custodial bank of the Lehman Brothers assets held in repo. The BoNY prices reflect the value attributed to securities in the Municipal Portfolio by BoNY as of September 19, 2008.
[8] BCI-EX-0099519 (Dep. Ex. 86B).

set of proxy bonds. Once I had determined that the proxy price was reasonable, I multiplied the derived market price by the notional principal to obtain a value based on market traded prices for each adjustable rate bond of the Municipal Portfolio. My approach was similar for the floating rate note, fixed, and zero coupon bonds in that, as part of the bond valuation process, I referenced market traded prices, spreads, and yields of comparable bonds to help establish a reasonable market price. Once I had determined that the market price was reasonable, I multiplied the market price by the notional principal to obtain a value based on market prices for these types of bonds.

Opinion 2: Professor Pfleiderer Was Incorrect In Accepting Barclays' Exit Price Marks

25. The Pfleiderer Report did not independently value any of the bonds in the Municipal Portfolio. To the contrary, the Pfleiderer Report failed to provide any documentation or supporting analysis to justify the values in the portfolio except to accept the exit values provided by Barclays. These exit prices imposed excessive liquidity haircuts on all of the ARS in the portfolio, and erroneously valued seven of the securities at one tenth of a cent on September 19, 2008.

26. Reliance on actual market data explains most of the differences between my valuation and Barclays' Exit Values. Since my valuations were grounded in observable market data and Barclays' were not, the Pfleiderer Report's opinions on these securities should be disregarded.

Submitted by:

Joseph Schwaba
March 15, 2010

Appendix I

Curriculum Vitae

JOSEPH SCHWABA

Residence: 412-220-7741

1305 Wellington Drive
Cell: 412-841-1925

Upper St. Clair, PA 15241
Email: joeschwaba@yahoo.com

SUMMARY

Senior financial markets executive with leadership and management experience in all aspects of trading, risk management, and marketing of securities and derivative products. Extensive background in the successful management of capital markets and derivative businesses, with expertise in proprietary risk management, product development, and the successful execution of trading and marketing strategies.

PROFESSIONAL EXPERIENCE

FEDERAL HOME LOAN BANK OF PITTSBURGH – Pittsburgh, PA 2003 – 2009
A Government Sponsored Enterprise chartered by Congress to assure the flow of liquidity through its member financial institutions into the American housing market.

Director, Corporate Risk Management

Managed the Corporate Risk Return Department: responsible for all aspects of interest rate risk management, including modeling, measurement, and reporting of market risk, earnings risk, and risk-based capital adequacy to senior bank management.

- Significantly expanded the quality and quantity of staffing to achieve business objectives.

- Successfully oversaw the transition to a more complete, up-to-date asset liability modeling system that became the Bank's primary system for interest rate risk management and risk-based capital analysis, management, and reporting.
  - Coordinated the approval of the new asset liability modeling system with the Bank's regulator, the Federal Housing Finance Agency (FHFA).
  - Transition and subsequent system upgrades were done on time and within budget.
- Department was recognized as increasingly integral to the analytical process involved in management decisions regarding valuation, earnings, and capital management through expanded and more comprehensive risk analysis.
- Voting member of Bank's Asset Liability Committee, and member of the Pricing and Market Risk Advisory sub-committees.

SCHWABA & ASSOCIATES – Chicago, IL 2000 – 2003

Trading & Risk Management Advisory Services

President

Advised and trained clients on the use of derivative products to improve Treasury and Portfolio risk management. Client business activity included:

- Providing expert testimony in four selected NYSE and NASD Arbitration cases.
- Trading advisor and manager in a Predictive Model joint venture with an established option/equity trading firm and an innovative software company, specializing in pattern recognition of publicly-traded stock prices.
- Advising major equity option trading and market making firm on trading OTC derivatives related to market volatility.
- Successfully locating a global financial institution to become equity investor and strategic business partner with this newly created firm specializing in origination and distribution of fixed income products to retail investors

ABN AMRO NORTH AMERICA – Chicago, IL 1996 – 1999

Financial sector leader for large global bank enhancing its capital management and market presence in key strategic areas.

Senior Vice President

Developed new markets supporting business direction of Company.

- Started and managed over-the-counter derivatives collateralization as a key strategic business initiative, including effects on risk-based capital. Represented Bank as one of ten charter members of the Chicago Mercantile Exchange (CME) Depository Trust Company.
- Developed structured investment products for Capital Markets and selected Commercial Banking Departments.

SCHWABA & ASSOCIATES – Chicago, IL 1991 – 1995

Trading & Risk Management Advisory Services.

President

Advised and trained clients on the use of derivative products to improve Treasury and Portfolio risk management. Client business activity included:

- Developing a strategy-based business framework for building profitable relationships with financial institutions. Participated in preliminary design of a global, multi-currency depository to collateralize OTC derivative transactions.
- Arranging and advising on prospective Sale Transaction related to over-the-counter (OTC) equity derivative market making.
- Advising a Chicago-based equity index/option market making firm regarding entry and participation in OTC equity derivatives market making.
- Training of personnel in Capital Markets financial products.

- Development of proprietary fixed income risk management software for senior management.
- Development of a global derivatives products business plan for a major Asian bank.

BANK OF AMERICA (formerly Continental Bank) – Chicago, IL 1986 – 1990

Provider of banking and financial services to individuals, small businesses, and commercial, corporate, and institutional clients.

Managing Director

Established Continental as one of the pre-eminent firms in marketing risk management services to US corporate customers.

- Grew business from zero revenues in 1987 to revenues of $60mm in 1990.
- Drove business profitability to a net operating income of $30mm, and return on equity was in excess of 150%, one of Continental's most profitable businesses.
- Managed the training and education of over 200 relationship managers and support personnel for marketing derivative products by partnering with the Bank's corporate banking department.
- Managed Continental's Primary Dealer business involving the trading, underwriting, and distribution of US Treasury and US Government Agency securities.

EDUCATION

MBA (Finance) – Northwestern University, Chicago, IL

BA (Economics) – University of Notre Dame, South Bend, IN

MILITARY

First Lieutenant – US Marine Corps

Air Traffic and Air Defense Control – South Vietnam

ADDENDUM

Professional Registrations

- Series 3; registered as an Associated Person of the Commodity Futures Trading Commission (CFTC) (1978-2001)
- Series 7, registered as a General Securities Representative of the National Association of Securities Dealers (NASD) (1978-1991) (1996-2001)
- Series 63, registered as a Uniform Securities Agent under the Uniform Securities Act (1996-2001)
- Registered with the Commodity Futures Trading Commission (CFTC) as a Commodity Trading Advisor (1992-1996) and Introducing Broker (1992-1994)
- Series 8, registered as a Limited Principal, General Securities Sale Supervisor (NASD) (1985-1991)

Professional Memberships

- Member, International Monetary Market of the Chicago Mercantile Exchange (1983-1990), Interest Rate Options Committee (1985), Interest Rate Futures Committee (1986-1987)
- Associate Member, Chicago Board of Trade (1986-1990)
- Public Securities Association Primary Dealers Committee (1986-1988), Options Committee (1988)
- Member, New York Futures Exchange (1983-1985)

Contains Highly Confidential Information

Appendix II
Documents Relied Upon

Documents in the Record

Depositions

Deponents	Date
Paul Pfleiderer	2/23/2010

Deposition Exhibits

Exhibit	Beginning Bates	Ending Bates
86B - Initial Inventory, Schedule A and B Assets	BCI-EX-00099519	BCI-EX-00099521
533A - Lehman Acquisition Assets Summary	BCI-EX-00295932	BCI-EX-00295933
25 - Clarification Letter		
24 - First Amendment to the Asset Purchase Agreement		
495 - Debtor’s Motion for an Order, Pursuant to Fed. R. Civ. P. 60 and Fed. R. Bankr. P. 9024, Modifying the September 20, 2008 Sale Order and Granting Other Relief, September 15, 2009		
633A Report of Paul Pfleiderer, Volume 1, dated Jan. 8, 2010		
634A Report of Paul Pfleiderer, Volume 2, dated Jan. 8, 2010		

Other Documents

Description	Beginning Bates	Ending Bates
Barclays Capital Valuation Methodology	BCI-EX-(S)-00213991	BCI-EX-(S)-00213992
Review of Barclay's Capital Price Testing Methodology and Framework	PwC-BarCapWP- 00022935	
Debtors' Adversary Complaint, dated Nov. 16, 2009		
Motion of Official Committee of Unsecured Creditors of Lehman Brothers Holdings Inc., et al., Pursuant to 11 U.S.C. § 105(a), Fed. R. Civ. P. 60(b), and Fed. R. Bankr. P. 9024, for Relief from Order Under 11 U.S.C. §§ 105(a), 363, and 365 and Federal Rules of Bankruptcy Procedure 2002, 6004 and 6006, dated Sept. 15, 2009		
Official Committee of Unsecured Creditors' Adversary Complaint, dated Nov. 16, 2009		
The Trustee's Adversary Complaint, Nov. 16, 2009		
The Trustee's Motion for Relief Pursuant to the Sale Orders or, Alternatively, for Certain Limited Relief Under Rule 60(b), September 15, 2009		

Documents that are Publicly Available

Investinginbonds.com

Other Documents Not Cited in the Record and Not Publicly Available

Lehman Brothers Municipal Market Commentary, September 5, 2008
Barclays Capital Municipal Market Commentary, October 3, 2008
Bloomberg L.P. Data
Investinginbonds.com.xlsx
Schwaba_Market Inputs.pdf

Appendix III

Methodology

I. Adjustable Rate Securities

27. Regular auctions of ARS are designed to reset the coupon on the bonds to reflect current market conditions and the credit worthiness of the borrowers. A dealer conducts an auction to set the rate. Investors specify the lowest rate they will accept to hold the bonds until the next auction. Typically, the broker conducting the auction begins with the customers submitting the lowest yields and accepts their commitment to invest. The broker then accepts commitments from customers bidding successively higher rates until the amount of accepted bids equals the amount of bonds being auctioned. Usually, the accepted investors all earn the highest accepted rate at the auction.

28. Investors that held bonds at the time of the auction will retain their position if they are among the accepted bidders. Investors that held bonds at the time of the auction but were not among the accepted bidders will transfer their bonds to new owners and receive $100 per $100 notional plus previously accrued income. The auction process sets the rate consistent with a price at par (100 percent of face value).

29. The auction process makes the prices of many ARS close together and close to par. However, the rates assigned by the auction process are not equal across companies and over time. Instead, the rates reflect the specific credit risk of individual bonds and the market conditions.

30. Some auctions cannot set a coupon rate at a level where investors are willing to accept all the bonds being auctioned. This is called a failed auction. Failed ARS would trade below par and may be subject to restricted liquidity. There also is a maximum auction rate established for each bond.

31. Given the lack of uniformity for securities with coupon rates set by auction process in the ARS market, I used a market-price approach to value the ARS in the Municipal Portfolio. I first determined key characteristics of each bond in the portfolio, including auction history, on or around September 19, 2008. I then used the MSRB data base to determine proxy bonds reflecting key characteristics of each Municipal Portfolio security on September 19, 2008.

I then obtained traded market prices for each of these proxy bonds and calculated the mean for the prices of each set of proxy bonds. I then multiplied the derived market price by the notional principal to obtain a dollar market value for each ARS.

II. Zero Coupon Bonds

32. The Municipal Portfolio includes three issues that pay no explicit coupon. Instead, the bonds are traded at a discount from par. The investor expects to receive the face value of the bonds and the difference between the face value and the market price reflects the interest the investor expects to earn over the life of the investment.

33. The positions were valued using market interest rates. Specifically, the rate reflects LIBOR (the London Interbank Offered Rate) plus a spread reflecting the credit conditions of the issuing municipality. The proper spread is determined by reviewing prices of comparable bonds that traded on September 19, 2008 to calibrate the pricing model used to price the zero coupon bonds.

III. Fixed Coupon Bonds

34. Fixed coupon bonds are valued much like zero coupon bonds, except that the LIBOR curve provides inputs for pricing multiple cash flows (regular coupons and repayment of principal). As with the zero coupon bonds, the bonds are priced at a spread above the LIBOR rates reflecting the credit conditions of the issuer. The spread is determined by observing the prices of comparable issues and calibrating the model to accurately price the comparable bonds, and then apply the model to the fixed coupon bonds in the position.

IV. Floating Rate Notes

35. The first step in valuing the floating rate bonds is to forecast all of the coupons up to maturity. The method used is commonly used in pricing floating rate notes and reflects the LIBOR curve. These projected coupons provide a basis for calculating cash flows. These projected cash flows and the principal payments are discounted at rates determined from the LIBOR curve and include a spread to reflect the credit conditions of the individual issuers. The

spread is determined by applying the same method to value comparable bonds to calibrate the floating rate pricing model.

Asset Class	CUSIP
Municipal Bonds	57582PJQ4
	254839J87
	373109BJ5
	196479ME6
	239427AG2
	764595AA2
	656178BE9
	798111AU4
	64986MUV5
	13033EKM4
	700404AA4
	917436CZ8
	517840D76
	649842AT8
	61213EFP4
	927781CQ5
	91754RLP0
	45200KZ35
	880459B35
	254839J87
	656178BE9
	841513LJ1
	574217JB2
	709223TC5
	7178182U1
	746189HG7
Total Sum	**26**

Asset Class	CUSIP	Chicago Partners Bid Value 09/19/08	Barclays Bid Value	Difference between Chicago Partners and Barclays Values (bid to bid)
Municipal Bonds	57582PJQ4	$61,336,500.00	$750.00	$61,335,750.00
	254839J87	$42,290,904.78	$33,780,000.00	$8,510,904.78
	373109BJ5	$32,782,493.70	$26,120,000.00	$6,662,493.70
	196479ME6	$23,480,000.00	$18,784,000.00	$4,696,000.00
	239427AG2	$9,813,504.30	$8,604,300.00	$1,209,204.30
	764595AA2	$10,700,400.00	$9,100,000.00	$1,600,400.00
	656178BE9	$19,450,000.00	$15,560,000.00	$3,890,000.00
	798111AU4	$12,216,611.10	$11,683,200.00	$533,411.10
	64986MUV5	$14,125,000.00	$141.25	$14,124,858.75
	13033EKM4	$12,350,000.00	$9,880,000.00	$2,470,000.00
	700404AA4	$12,834,120.00	$9,880,000.00	$2,954,120.00
	917436CZ8	$11,970,000.00	$9,576,000.00	$2,394,000.00
	517840D76	$10,000,000.00	$8,000,000.00	$2,000,000.00
	649842AT8	$8,397,144.00	$6,720,000.00	$1,677,144.00
	61213EFP4	$7,237,051.50	$5,800,000.00	$1,437,051.50
	927781CQ5	$6,524,955.20	$5,216,000.00	$1,308,955.20
	91754RLP0	$6,400,000.00	$5,120,000.00	$1,280,000.00
	45200KZ35	$5,100,000.00	$4,080,000.00	$1,020,000.00
	880459B35	$3,855,187.50	$3,175,500.00	$679,687.50
	254839J87	$125,195.10	$100,000.00	$25,195.10
	656178BE9	$50,000.00	$40,000.00	$10,000.00
	841513LJ1	$3,093,446.00	$30.93	$3,093,415.07
	574217JB2	$5,200,000.00	$52.00	$5,199,948.00
	709223TC5	$8,000,000.00	$80.00	$7,999,920.00
	7178182U1	$7,971,520.00	$80.00	$7,971,440.00
	746189HG7	$7,999,200.00	$80.00	$7,999,120.00
Total Sum	**26**	**$343,303,233.18**	**$191,220,214.18**	**$152,083,019.00**

Exhibit K

UNITED STATES BANKRUPTCY COURT
SOUTHERN DISTRICT OF NEW YORK
----------------------x
In Re:
Chapter 11
LEHMAN BROTHERS Case No. 08-13555(JMP)
HOLDINGS, INC., et al., (Jointly Administered)

Debtors.

----------------------x

DEPOSITION OF JOHN J. SCHNEIDER
New York, New York
April 12, 2010

Reported by:
KATHY S. KLEPFER, RMR, RPR, CRR, CLR
JOB NO. 29650B

April 12, 2010
2:23 p.m.

Deposition of JOHN J. SCHNEIDER, held at the law offices of Boies Schiller & Flexner, LLP, 575 Lexington Avenue, New York, New York, before Kathy S. Klepfer, a Registered Professional Reporter, Registered Merit Reporter, Certified Realtime Reporter, Certified Livenote Reporter, and Notary Public of the State of New York.

A P P E A R A N C E S:

JONES DAY, LLP
Attorneys for Lehman Brothers, Inc.
222 East 41st Street
New York, New York 10017-6702
BY: JAYANT W. TAMBE, ESQ.
BART GREEN, ESQ.

BOIES, SCHILLER & FLEXNER, LLP
Attorneys for Barclays
5301 Wisconsin Avenue, N.W.
Washington, D.C. 20015
BY: JONATHAN M. SHAW, ESQ.

A P P E A R A N C E S: (Cont'd.)

QUINN, EMANUEL, URQUHART & SULLIVAN, LLP
Attorneys for the Creditors Committee
51 Madison Avenue
22nd Floor
New York, New York 10010
BY: ROBERT K. DAKIS, ESQ.

HUGHES, HUBBARD & REED, LLP
Attorneys for the SIPA Trustee
One Battery Park Plaza
New York, New York 10004-1482
BY: SAMUEL C. McCOUBREY, ESQ.

ALSO PRESENT:
MARC VELLRATH, FSG

J. Schneider

JOHN J. SCHNEIDER, called as a witness, having been duly sworn by a Notary Public, was examined and testified as follows:

EXAMINATION BY
MR. SHAW:

Q. Please state your name, sir.
A. John Schneider.
Q. Good afternoon, Mr. Schneider. I'm Jonathan Shaw. We met off the record. I represent Barclays Capital in this matter.
Have you ever been deposed before, sir?
A. Just once.
Q. And when was that?
A. It was in December of 2007.
Q. And that was in connection with what?
A. It was the Man Financial against Philadelphia Asset Management.
Q. And that's the case which is reported as expert witness experience -- Deposition/Testimony Experience on your resumé?
A. That is correct.
Q. What did that case involve?

J. Schneider

A. It involved a fraudulent activity of an asset manager and the impact on -- that the administrator, at least that was my position in the matter, might have had in perpetrating fraud.

Q. And so the area of your --

A. Expertise.

Q. -- expert testimony was what?

A. It was the responsibilities of an administrator.

Q. When you say an administrator, you mean?

A. In the context of a hedge fund, an administrator typically does fund accounting and custody, amongst other activities, potentially.

Q. As we go forward today, obviously I'm going to ask you questions. To the extent that any of my questions aren't clear to you, please let me know that and I'll try and do a better job of formulating them.

Also, although I think this will be a relatively short deposition, if at any point you want to take a break, just let me know and we'll take a break.

J. Schneider

A. Thank you.

Q. What specific experience have you had reviewing repo transactions?

A. Specifically in many of the activities that I've performed currently at Navigant, for example, I would be involved in the investment of those -- in mutual funds' and hedge funds' portfolio assets into a repo transaction. Along with that at Navigant I would pass that through to the service provider and review the valuation activities provided by those service providers.

MR. TAMBE: Are you asking current experience or just all experience?

MR. SHAW: All experience.

Q. Anything else?

A. Certainly. If you take that a step further, while at Brown Brothers, we were a service provider to both mutual funds and hedge funds, and the same would apply there, where the responsibilities in, particularly within the fund accounting teams would be to value portfolios, strike a net asset value. Amongst other things included in those activities would be the marking of collateral, for example,

J. Schneider

specifically to repo transactions and as well at Brown Brothers they had a securities -- they were a securities lending agent, and the same types of responsibilities apply there.

And I could take it a step further to Citibank. Again, Citibank, as a service provider, they would provide the same types of service for all types of asset classes, including securities loaning transactions and repo transactions. And that was the majority of my experience throughout my 23 years of experience, ex prior to Citibank, which was scholastic, and Price Waterhouse.

Q. Have you ever done any work for a repo custodian?

MR. TAMBE: Objection to the form of the question.

You can answer.

MR. DAKIS: Same objection.

A. Can you be more specific?

Q. Yes. Have you ever worked for any financial entity that served as a repo custodian either as an employee or as a consultant?

A. I'm not sure I'm clear on the question

J. Schneider

still.

Q. Is it your understanding -- well, can you identify for me the repo custodian's, custodial banks that do business in the United States?

A. There are several.

Q. Okay.

A. Two of which I have opined on include Bank of New York and JPMorgan.

Q. Have you ever done any work for Bank of New York in the repo area?

A. Bank of New York I did not do work in the repo area. However, I have done some work in Bank of New York around the securities lending activities that they conduct.

Q. What have you done for Bank of New York on securities lending?

A. We're currently engaged and just broadly speaking we're looking at the investment restrictions associated with securities lending activities.

Q. Okay. And have you done any work for JPMorgan in the repo area?

A. Yes, I would say yes, in that I was

J. Schneider

engaged by JPMorgan to do a review of their mutual fund, and as such, within their mutual funds, they often invested in repo transactions. Those repo transactions were typically serviced through their affiliated service provider.

Q. Is a securitized lending transaction the same as an overnight repo transaction?

MR. DAKIS: Objection to form.

MR. TAMBE: Objection to form.

A. Can you repeat the question? Securitized lending?

Q. I'm sorry. Is a security lending transaction different from an overnight repo transaction?

MR. DAKIS: Objection to the form.

MR. McCOUBREY: Objection to the form.

A. If the question is what are the nuances of servicing a securities lending transaction and how is that different than servicing a repo transaction, there are very subtle differences. They are both designed to take collateral, and the offset to that collateral is to take on cash in the case of securities lending. In a repo transaction, it

J. Schneider

is a loan that's being extended against collateral. In both cases the collateral is being managed by a service provider, and typically that's a custodial servicing agent.

Q. What specific experience have you had reviewing processes in place to ensure that only appropriate collateral is accepted on behalf of tri-party repo custodians?

MR. DAKIS: Objection to form.

A. Can you repeat the question?

Q. Sure. What specific experience have you had reviewing processes in place to ensure that only appropriate collateral is accepted on behalf of tri-party repo custodians?

MR. DAKIS: Same objection.

A. I think the answer to the question is what experience do I have in marking securities or managing collateral pools, and I have significant experiences. Firstly, at Navigant, where I just mentioned with Bank of New York. I have done that with Brown Brothers Harriman, where I actually was responsible as the internal audit head of their investor services business line in helping to implement the securities

J. Schneider

lending business line as a whole. Part of that would be looking at the relationships that they formed to offer those services.

MR. SHAW: Could you read my question back?

(Record read.)

MR. TAMBE: Objection to form.

MR. DAKIS: Same objection.

A. So the specific question is?

Q. Is what experience have you had reviewing processes in place to ensure that only appropriate collateral is accepted on behalf of tri-party repo custodians?

A. Okay. So if we can take tri-party repo and address that first. I have reviewed processes at custodians that had to do with repo transactions, broadly speaking. The difference between a tri-party repo and an RVP/DVP repo are subtle differences, but both have a collateral management component to it, and then the collateral management component to looking at a RVP/DVP repo transaction, I've had considerable experience in looking at those processes, both at a policy, procedure, and internal controls

J. Schneider

standpoint.

Q. Have you reviewed the valuation policies that Bank of New York uses in valuing tri-party repo collateral?

A. I did not.

Q. Have you reviewed the valuation policies that JPMorgan uses in valuing tri-party repo collateral?

A. I did not.

Q. Have you reviewed any testimony or documents concerning how BoNY valued the collateral in the Fed replacement repo?

A. I have reviewed some testimony as it relates to the fact that, for example, Bank of New York was the tri-party agent as it related to the Lehman/Barclays transaction, yes.

Q. Apart from reviewing testimony stating that or that you interpret to mean that BoNY was the tri-party agent in that repo transaction, have you reviewed any testimony or documents concerning how BoNY valued the collateral in the fed replacement repo?

A. Just testimony is what you're speaking to?

J. Schneider

Q. Testimony concerning how BoNY went about valuing the particular collateral?

A. The answer is that I've seen some evidentiary indication within the deposition that there were processes that were followed, but they were not specific enough to determine exactly what were the processes that were in place.

Q. Can you recall whose deposition testimony you're thinking of?

A. Well, the one that I cite within my report is Hraska, and that is really, again, citing the fact that Bank of New York was in fact the tri-party repo agent.

Q. Have you reviewed any testimony or documents concerning how JPMorgan valued the collateral in the Fed replacement repo?

A. I believe you've already asked that.

Q. I think I asked about BoNY.

A. I thought you asked both, JPMorgan and BoNY.

Q. Well, I was intending to get to both. So is the answer the same to both?

A. Valuation, I have not.

J. Schneider

Q. Do you know whether the Fed replacement repo was in fact the tri-party repo?

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Same objection.

A. And can you repeat the question differently?

Q. Was the Fed replacement repo a tri-party repo?

MR. TAMBE: Object to the form of the question.

MR. DAKIS: Object to the form.

MR. TAMBE: You can answer if you understand it.

A. I'm not sure that I fully understand it.

Q. You're aware that on September 18, 2008 Barclays engaged in a repo -- in a repurchase transaction with Lehman Brothers, Inc.; is that correct?

A. That is correct.

Q. And if I call that the Fed replacement repo, will you understand what I'm referring to?

A. I do.

J. Schneider

Q. And I call it that because this replaced an existing repo agreement between the Fed and LBI, do you understand that?

A. I do.

MR. DAKIS: Objection to form.

Q. My question for you was, was the Fed replacement repo a tri-party repo?

A. The indications that I've read in terms of deposition and the Clarification Letter would lead me to believe that it was a tri-party repo transaction.

Q. And when you say the indications in deposition, you're referring specifically to Mr. Hraska's deposition?

A. That's correct.

Q. Any other depositions?

A. None that are coming to mind, but I know that in other depositions it was also mentioned.

Q. Did you ever have occasion to review the deposition of Alan Kaplan?

A. I do not believe I did.

Q. And you said something in the Clarification Letter led you to believe that it

J. Schneider

was a tri-party repo?

A. That is correct.

Q. What's your recollection of what in the Clarification Letter led you to that belief?

A. I believe it actually stated that there was a tri-party repo transaction between Lehman and Barclays.

Q. Would it matter at all to any opinion you have expressed in this case if the Fed replacement repo transaction was not a tri-party repo transaction?

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Same objection.

MR. McCOUBREY: Objection.

A. So the question, if I understand it, is would it change my opinion? It would not change my opinion or opinions.

(Exhibit 703, John J. Schneider Expert Report, marked for identification, as of this date.)

(Exhibit 704, John J. Schneider Expert Report Errata, marked for identification, as of this date.)

J. Schneider

Q. Sir, showing you what has been marked as Exhibit 703, do you recognize that as a copy of your report in this matter?

A. I do.

Q. And showing you what has been marked as Exhibit 704, do you recognize that as a copy of the errata to your report?

A. I do recognize it as such.

Q. How many hours have you billed to this matter, sir?

A. I couldn't tell you exactly, but I would estimate 80 hours.

Q. Take a look, if you would, at paragraph 9 of your report. You see in paragraph 9 that you say, "If BoNY and JPM were unable to accurately mark hard to value, complex securities, they would be exposed to undue business risk"?

A. I do see that.

Q. And do you believe that that observation lends credibility to the BoNY and JPMorgan marks of repo collateral?

MR. DAKIS: Objection to form.

A. The question is do I believe that this

J. Schneider

statement lends --

Q. Credibility --

A. -- credibility?

Q. -- to the marks that they affix to repo collateral?

A. I do.

Q. And that's because in your view they would be exposed to business risk if they failed to accurately mark repo collateral?

A. Precisely.

Q. And you understand that, as a broker-dealer, Barclays is likewise required to mark its trading assets on a regular basis?

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Same objection.

A. As a broker-dealer, Barclays has a responsibility to value its assets. I'm not absolutely certain as to what their responsibilities are as it relates to the collateral.

Q. Well, would it be fair to say that if Barclays were unable to accurately mark hard to value, complex securities, that would expose

J. Schneider

Barclays to undue business risk?

A. Can you be more specific in terms of what type of business activity?

Q. Do you understand that Barclays is in the business of trading both for its own account, for the account of its customers in various complex, hard to mark or hard to value securities; you understand that?

A. I do.

Q. And as part of its regular business activities, Barclays is required to affix value to the securities that it holds or that it trades in, correct?

A. I believe that it is looking at a trade and understanding whether a trade is economically viable for either itself in a prop desk or its clients in the case that it's acting in a discretionary capacity.

Q. And just for purposes of preparing its own books and records, it's required to mark to market the securities that it holds, is it not?

A. It's that which is in inventory, that's correct.

Q. And do you have any reason to believe

J. Schneider

that Barclays does not have a solid capability to accurately mark the inventory that it holds?

MR. DAKIS: Objection to the form.

A. So the question is do I -- I'm not sure how that's relevant to what I've opined on. I'm not trying to be argumentative. I'm just trying to understand how that has to do with the responsibilities of Bank of New York and JPM.

Q. The way a deposition works is I ask a question and you either answer or tell me you can't answer it.

A. Okay.

Q. Okay?

MR. TAMBE: Or he asks you to clarify the question if he doesn't understand the question.

Q. Obviously, if you don't understand the question, but we're not going to get into my purposes for asking questions.

A. Okay.

Q. Do you have any reason to believe that Barclays is not fully capable of accurately marking the inventory that it holds?

MR. TAMBE: Objection to the form of

Page 22

J. Schneider
that question.
MR. DAKIS: Same objection.
MR. McCOUBREY: Same objection.
A. Again, I'm struggling with -- I did not do any work evaluating Barclays' valuation activities.
Q. Just so I'm clear, I take it you also did not in any way attempt to validate the marks that BoNY placed on any of the securities that were in the Fed replacement repo?
MR. DAKIS: Objection to the form.
A. When you say "validate," in what capacity?
Q. You didn't check in any way to see whether those were in fact correct?
A. I did not value the marks.
Q. And the same holds true for JPMorgan, I take it?
A. That is true.
Q. At Bank of New York who establishes the marks that Bank of New York uses in its role as custodial agent?
A. In the case of Bank of New York, Bank of New York would determine what the mark is.

Page 23

J. Schneider
Q. And I've asked an imprecise question, so let me make it a little more precise.
What individuals -- and I'm not looking for a name but, rather, a functional category -- at Bank of New York are responsible for doing that?
A. It would typically be the Collateral Management Team.
Q. Do you know if any of the people on the Collateral Management Team are active traders of assets?
A. I would have no understanding of that.
Q. Do you have any idea whether they regularly communicate with the bank's traders in any of the assets they're valuing?
MR. TAMBE: Object to form.
MR. DAKIS: Same objection.
A. If the question is do I know whether they communicate with the trading desks at JPM?
Q. Or BoNY, as the case may be.
A. Or BoNY. No, I don't know what type of communication between the two units.
Q. When you say that in a repo situation BoNY sets the marks or sets the value, for what

Page 24

J. Schneider
purposes does BoNY set the value?
A. It's setting the value of the marks to determine if it has sufficient collateral based on the contractual guidelines that have been established to have that transaction -- have enough collateral on hand to allow one of the counterparties, the lender, to lend the dollar amount that it's lending.
Q. For any other purpose?
A. Well, it also has to do with from it's own -- from a service provider standpoint, there's certainly some risk that presents itself to that organization, so it's compelling for them to get the value to be correct.
Q. Are you expressing any opinion that Barclays was required to accept BoNY marks for any purpose other than determining if sufficient collateral has been provided?
MR. TAMBE: Objection to the form of the question.
MR. DAKIS: Same.
A. If I understand the question, are you asking if Barclays had a responsibility to accept BoNY's marks for any other purposes than

Page 25

J. Schneider
the transaction?
Q. Yes.
A. And that is correct, there is no other reason for Barclays, necessarily, to accept that for any other purpose than the transaction, and that's what my opinion is specific to.
Q. And specifically when you say "for the transaction," you're referring to the determination of whether sufficient collateral has been provided?
A. As it relates to the tri-party repo.
Q. Yes.
A. Yes.
Q. Have you read the report prepared by the gentleman who was here a little earlier today, Mr. Schwaba?
A. I did not.
Q. Turn to paragraph 38 of your report, if you would, please. It's on page 16.
A. I am getting there. Okay.
Q. Let's take a look at the third bullet point in there. Is it your view that today every CMO of whatever quality is eligible as collateral for a private tri-party repo?

J. Schneider

MR. TAMBE: Objection to form.
MR. DAKIS: Same objection.
A. If the question is do I believe that every CMO qualifies?
Q. Yes.
A. That's not what this paragraph is saying.
Q. All right. Are there types of CMOs that you would not expect to constitute eligible securities for private tri-party repos?
A. Again, I believe, if I understand the question, are you asking whether this paragraph states that certain CMOs are acceptable and certain are not? What this is intended to say, or I intended it to say, is that there are certain types of securities that are generally acceptable, and CMOs being one of those asset classes.
Q. Okay. And my question is are all CMOs eligible collateral or only a subset of CMOs eligible collateral?
MR. TAMBE: Object to the form.
MR. DAKIS: Same objection.
MR. McCOUBREY: Same objection.

J. Schneider

Q. I'm just trying to find out what your opinion -- whatever opinion you're expressing on that issue.
A. I do go back to what I said previously, and that is that, generally speaking, CMOs are an acceptable form of collateral. Now, I believe, maybe let me take that a step further, and that is that typically within the tri-party agreement there are specifications to allowable collateral, and that is typically determined by the lender as to what's acceptable. So in this particular transaction you'd have to look to the contract to define that.
Q. So if I understand you correctly, you are not opining that there's a blanket rule that all CMOs are eligible securities in a repo?
A. I am not giving that opinion.
Q. And the same would be true with respect to CDOs; is that correct?
A. That would be correct.
Q. And CBOs?
A. Any of the asset classes. We could run down the list and that would generally be

J. Schneider

true, although I would be hard pressed to think that you would find a Treasury that is not acceptable.
Q. Unfortunately, that may be changing these days.
A. I understand. New rules are coming.
Q. Looking at paragraph 41, sir, of your report, do you see that you present what I understand to be a definition of "less liquid" collateral as that term is used in the statistics that you report from the Fed?
A. That is correct.
Q. And would I be correct in understanding you to be defining "less liquid collateral" as corporate securities, mortgage-backed securities, and asset-backed securities?
MR. TAMBE: Objection to the form of the question.
MR. DAKIS: Same objection.
Q. For that purpose.
A. I didn't opine on the types of collateral that are deemed less liquid.
Q. So you're just reporting something

J. Schneider

that you read somewhere?
A. What I'm reporting is that, from experience, there are certain asset classes and certain assets within classes that are considered less liquid, and they in fact have been deemed acceptable forms of collateral for purposes of tri-party repo transactions.
Q. So in paragraph 41 when you discuss the percentage of non-traditional collateral used in dealer repos, you're referring to the percentage of collateral that falls into the categories of corporate securities, mortgage-backed securities, and asset-backed securities; is that correct?
A. That is correct.
Q. Now, would it be fair to say that corporate securities is a fairly broad asset class?
A. And that's precisely why I said in some cases it's, within that asset class, you're going to find some that are less liquid.
Q. And some in fact are extremely illiquid, esoteric, and hard to value, would that be fair?

J. Schneider

MR. DAKIS: Objection to form.

A. It's possible that there are corporates that are -- I'm not sure extremely, but ...

Q. And then do you know in the statistics that you cite in paragraph 41 how many -- what percentage of the corporates that are going to make up the figures you cite are of the illiquid, esoteric variety as opposed to the liquid and easy to value variety of corporates?

MR. TAMBE: Objection to form.

MR. DAKIS: Same objection.

A. If I understand your question, if I took the total population of corporates and dissected it and came up with a stratification as to what's considered, I did not go through that analysis.

Q. And the same, I take it, would be true with respect to asset-backed and mortgage-backed securities?

A. That is correct.

Q. So you're not able to tell me, of the percentages that you give here in paragraph 41, how much of that non-traditional collateral that

J. Schneider

you refer to is actually illiquid and esoteric as opposed to more liquid and straightforward securities of those -- in those classes?

MR. DAKIS: Objection to the form of the question.

MR. TAMBE: Objection.

A. If I understand correctly, I think what this is saying is of all the collateral that's accepted within the industry relative to tri-party repos, that the percentage that's been accepted uniformly has gone up both times.

Q. And you're not able to tell me of that percentage how much of it is illiquid, esoteric securities of those types?

MR. TAMBE: Objection to form.

MR. DAKIS: Same objection.

MR. McCOUBREY: Objection to form.

A. I think it is saying that. I believe the paragraph, as it's written, and we can go through it, is saying that if all the collateral that's being accepted, corporates, mortgage backs and asset backed securities, in their illiquid form, are being accepted as collateral.

Q. So you're saying that the figures that

J. Schneider

are given here, when you say, for example, "By January 2006, that proportion reached around 48 percent," that 48 percent is composed entirely of illiquid securities?

A. What I'm saying is that's what the Fed is stating in 2005, yes.

Q. And that's how you're reading what the Fed is stating?

A. That's what I'm -- that's how I'm reading it.

Q. And I just want to make clear, because I thought you were saying something different a moment ago, that 48 percent, are you saying that consists of all corporates, asset backs and mortgage backs or a subset of illiquid corporates, asset backs or mortgage backs?

A. The way I understood the prior question was that you were speaking to an asset class, corporate securities, and if I took that population, and let's say that was a million dollars, and in corporate securities there were 60 percent that were liquid and 40 percent that were illiquid, I don't know that answer.

Q. In terms of the collateral that was in

J. Schneider

the Fed replacement repo, was there any collateral that BoNY had no experience whatsoever in valuing?

A. I have no basis to answer that.

Q. You don't know one way or the other?

A. I don't.

Q. In the course of your work on this matter, have you in any way examined the specific collateral that was used in the Fed replacement repo?

A. Be more specific. I've seen a list of assets, but I did not analyze it in any way.

Q. Did you do anything besides seeing that there was a list of assets?

A. That's correct.

Q. I think I may have phrased my question incorrectly, but let me make sure that I understand your answer.

A. Maybe we can read it back.

Q. When you say that's correct, you mean you did not do anything besides seeing that there was a list of assets?

A. I did not do anything other than see a list of assets.

J. Schneider

Q. Turn to paragraph 10 of your report, sir. The first sentence you write the words, "The requirements imposed on tri-party repo agents by the Federal Reserve Bank of New York," do you see that?

A. Yes.

Q. What requirements specifically are you referring to?

A. Well, the Fed throughout my report has given guidance as to what are the responsibilities of the tri-party repo agent, and those responsibilities include, amongst others, is the onboarding of the collateral, the valuation or marking of the collateral, and the qualification of those assets that are brought on as collateral.

Q. So when you talk about requirements, I take it what you are talking about is simply the identification of functions that are to be performed by the custodian; is that what you're talking about?

A. That is correct.

Q. Given your prior answers, I take it that it's fair to say that you do not know if

J. Schneider

all the collateral transferred to Barclays in the Fed replacement repo transaction would have been eligible for use as collateral in a Fed repo transaction?

A. The answer is I would not know if all the collateral that was transferred qualified.

Q. Are you expressing any opinion about what constitutes a generally recognized source for valuation of securities?

A. When you say source, just so that I'm clear, a service that is utilized by a tri-party agent to price the security; is that what you're asking?

Q. That could be one. Let me rephrase the question. I think I can make it a little clearer.

Are you offering any opinion as to what constitutes a generally recognized source of prices for repo collateral?

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Same objection.

A. And maybe if I could just offer a different way to potentially ask it and answer,

J. Schneider

and that is that what I am offering is that there's a general process that a tri-party collateral agent follows in terms of the types of tools that it will use to price a security.

Q. I think we're missing each other, but I think I have a way to get us to where I'm going.

A. Okay.

Q. So let me do that.

Showing you what's previously been marked as Exhibit 117 in this case.

A. Okay.

Q. Do you recognize this as a Master Repurchase Agreement?

A. Yes, I do.

Q. In the 1996 version, published by the Bond Market Trade Association?

A. (Witness nods.)

Q. You need to answer orally.

A. Oh, yes.

Q. And if you turn to page 7, paragraph 11(d), and you'll see that there is an intro, a Roman I, a Roman II, and then a continuation paragraph, do you see that?

J. Schneider

A. I do see that.

Q. And if you look at number 2 in the continuation paragraph, it says, "In the absence of a generally recognized source for prices or bid or offer quotations for any security"?

A. You did say paragraph 2, (D)(ii)?

Q. Not the little (ii), the continuation paragraph.

A. Okay.

Q. Yes. You see it's got Arabic numerals 1 and 2 and 3?

A. Yes.

Q. Okay. And Arabic numeral 2 reads, "In the absence of a generally recognized source for prices or bid or offer quotations for any security," do you see that?

A. I do.

Q. Okay. And so my question is, are you offering any opinion as to what constitutes a generally recognized source for prices or bid or offer quotations for any security?

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Same objection.

J. Schneider

MR. McCOUBREY: Same objection.

A. If you're asking the question that does a tri-party repo agent use pricing sources to accomplish what is referred to here, they do in fact; and if I think the follow on was am I offering that one source is better than another in my report. I am not.

Q. Neither of those are quite the question I was asking.

A. Okay. I'll get there.

Q. Let me see if I can get there.

Are you offering any opinion about what constitutes a generally recognized source for prices or bid or offer quotations for any security?

MR. TAMBE: Object to the form.

A. So if the question is does the pricing source have a bid and ask price?

Q. No. Not the question.

A. Okay.

Q. My question is, are you offering an opinion about what constitutes a generally recognized source for prices or bid or offer quotations for any security used in a repo

J. Schneider

transaction?

MR. TAMBE: Same objection to the form.

MR. DAKIS: Same objection.

A. I remain unclear as to the question being asked.

Q. Okay. Let me keep trying then. Are you, for example, opining that the collateral marks affixed by a tri-party repo agent, for example, constitute a generally recognized source for prices or bid or offer quotations for any security?

A. Can I have you read that back, please?

(Record read.)

A. So if I understand the way it was read back, it's that when a tri-party agent provides pricing that is based on an acceptable source, is that something I'm opining on?

Q. No, that's not quite what I'm doing, but I think we're getting closer.

Let me break it into pieces. You stated that for purposes of assessing whether sufficient collateral has been provided a tri-party agent will affix marks to securities;

J. Schneider

is that correct? Marks to the collateral?

A. That is correct.

Q. Okay. And my question is, are you offering any opinion that a tri-party agent's marks constitute a generally recognized source of -- source for prices or bid or offer quotations for any such security?

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Same objection.

MR. McCOUBREY: Same objection.

A. And if I understand the agreement here and what you're reading from, that's not the intention.

Q. Okay. You can put that aside.

MR. SHAW: Why don't we take a short break.

(Recess; Time Noted: 3:11 P.M.)

(Time Noted: 3:24 P.M.)

BY MR. SHAW:

Q. Mr. Schneider, I think I already know the answer to this based on your prior answer, but I just want to make sure I have it cleanly.

You'll recall we discussed the

J. Schneider

purposes for which parties to a repo are required to accept the marks of the repo custodian; do you recall we discussed that earlier today?

A. We did, yes.

Q. And if I recall your testimony correctly, you agreed that the only purposes for which the parties to a repo transaction were required to accept the custodian's marks were for the purposes of assessing whether sufficient collateral had been provided; is that correct?

MR. TAMBE: Objection to form.

MR. DAKIS: Objection to form. Misstates prior testimony.

MR. McCOUBREY: Same objection.

A. Can you repeat that?

MR. SHAW: Can you read it back?

(Record read.)

MR. TAMBE: Same objection.

A. Can you give me more clarity on that question, please?

Q. Okay. Well, you've expressed the opinion, I believe, that the parties to a repo transaction agree to accept the custodian's

J. Schneider

marks; is that correct?

A. That is correct.

Q. And I believe earlier I asked you for what purposes do they agree to accept the custodian's marks, and so let me ask that again.

For what purposes do the parties to a repo transaction agree to accept the custodian's marks?

MR. DAKIS: Objection to the form.

A. For the transaction itself they're accepting the mark to determine that there's sufficient collateral.

Q. And not for any other purposes?

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Same objection.

A. Not as it relates to the transaction.

Q. For any purposes not relating to the transaction that you can think of?

A. I'm not aware of how else they use the marks.

Q. You're not testifying, for example, that there's any requirement that the parties to a repo use custodian's marks for their own --

J. Schneider

for purposes of valuing assets on their own books and records, are you?

A. I don't believe there's a requirement.

Q. If you would take a look at paragraph 14 of your report, sir, and in that you have a long quote from Professor Pfleiderer's report; is that correct?

A. I do.

Q. Okay. The first sentence reads, "There is every reason to believe that JPMorgan Chase and BoNY, in their roles as custodians, had no better insight and were no better informed than (and more likely were not as well informed as) Mr. King," and then you have a footnote that I assume was also copied from Professor Pfleiderer's report identifying who Mr. King is, "and his team," do you see that?

A. I do.

Q. Do you disagree with anything in that sentence?

A. I disagree. I mean, it was his statement, and I don't agree that -- I don't know where the validity of whether or not who is more informed, I don't know.

J. Schneider

Q. So, one way or the other, you have no personal opinion on that?

MR. TAMBE: Objection to the form of the question.

MR. DAKIS: Same objection.

A. Yes, my opinion, as you read below, is what Professor Pfleiderer did or didn't do.

Q. Okay. But you have no basis for offering an opinion on whether the Barclays team or the BoNY or JPMorgan teams were better qualified to assess the value of the particular collateral you used in the federal repo?

A. On half of the question I have an opinion, which is that JPMorgan or Bank of New York in this matter have a responsibility and have sufficient knowledge to be able to price the collateral.

Q. Okay. But you have no basis for offering any opinion on whether the Barclays team or the BoNY or JPMorgan teams were better qualified to assess the value of the particular collateral used in the Fed replacement repo?

MR. TAMBE: Objection to form.

MR. DAKIS: Objection to form.

J. Schneider

A. I did not opine on that.

Q. In the next sentence you quote, "Thus, it is virtually certain that both JPMorgan Chase and Bank of New York encountered significant problems in characterizing, understanding, and marking at least some of the securities that comprise the repo collateral." Do you see that?

A. I do.

Q. Do you have any reason to dispute that sentence?

A. Dispute it in what context?

Q. To suggest that that statement made by Professor Pfleiderer there is incorrect?

A. Yes. Actually, when I read that, I'm not sure how he makes that conclusion based on the prior sentence. He's saying because one team is better informed than another, that -- I think he concludes one is better than the other, but I'm not certain, and then he says, "Thus, it is virtually certain that both JPMorgan and Bank of New York encountered significant problems."

I don't see anything that tells me he had problems or that he was aware of problems that JPMorgan or Bank of New York had

J. Schneider
encountered.
Q. I take it you have not read any of Mr. King's testimony?
A. I have not read King's testimony, no.
Q. And you know nothing about what sort of collateral was actually in the Fed replacement repo; is that correct?
A. Other than your question previously where I did look at a list of collateral.
Q. The third sentence of what Professor Pfleiderer wrote and you quote reads, "Given that JPMorgan Chase had just a few days to understand and mark at least the positions backing the Federal Reserve Bank of New York's loans to LBI earlier in the week, and that BoNY had just one day (at most) to understand and mark the positions backing the Barclays Federal replacement repo loan to LBI on Thursday, it is highly likely that at least some of their marks were, at a minimum, imprecise."
Do you have any basis for contesting the conclusion stated by Professor Pfleiderer in that sentence?
A. I do.

J. Schneider
Q. What is your basis for contesting that conclusion?
A. The nature of a tri-party repo is that it unwinds daily, so any tri-party repo, you only have one day to value the collateral.
Q. Do you know how long Barclays had to value the collateral when it affixed values to the collateral for purposes of its acquisition accounting?
A. I do not.
Q. And I take it you're not testifying that none of the BoNY marks could be imprecise?
A. I am not opining on that.
Q. Look at paragraph 11 of your report. You write, "Therefore, BoNY and JPM collateral marks should not be summarily dismissed as unreliable." Do you see that?
A. I do.
Q. Is it your opinion, are you offering the opinion that Professor Pfleiderer summarily dismissed the BoNY and JPM marks as unreliable?
A. My opinion is Professor Pfleiderer had language to suggest that the marking process undertaken by JPMorgan and BoNY was not to be

J. Schneider
relied upon, in summary.
Q. Is it your understanding that that was his opinion with respect to each and every security that they marked or to a subset of those securities?
A. The testimony that I read did not get specific or granular enough to get into which he was speaking to.
Q. So you just don't know?
A. From his testimony, yes, I do not know, nor in his expert report for that matter.
Q. If you would look at paragraph 26 of your report, sir, that again contains a quote from Professor Pfleiderer's report, do you see that?
A. I do.
Q. And do you see that Professor Pfleiderer states that "both banks, JPM and BoNY, had procedures and pricing groups that enabled them to provide marking services quickly and with the level of accuracy required by their role in tri-party repos for the types of securities typically eligible as collateral in tri-party repos at least under normal

J. Schneider
conditions, for normal commercial tri-party repos," do you see that?
A. I do.
Q. Does that give you any information as to whether Professor Pfleiderer was contesting their marks wholesale or simply a subset?
A. I believe, if I understand the question -- can I have you repeat it one more time?
Q. Sure. As you read that statement by Professor Pfleiderer, do you understand him to be saying that for the type of collateral that is normally eligible, BoNY or JPMorgan was perfectly well able to mark that collateral?
A. The way I read it is he states that there are policies and procedures that are maintained to allow them to price securities.
Q. I take it that you do not yourself have any opinion as to which entity was better qualified to provide accurate marks for the collateral in the Fed replacement repo, BoNY on the one hand or Barclays on the other?
A. I do not provide that opinion in my report.

J. Schneider

Q. And I take it you're not providing any opinion that Barclays was unqualified to provide accurate marks for the securities it received in this transaction?

A. I did not opine on Barclays' capabilities.

(Continued on the next page to include the jurat.)

J. Schneider

Q. And I take it you have no understanding of what -- you have made no investigation of what Barclays' capabilities are for accurately evaluating securities?

A. I did not perform any level of investigation as to what Barclays' capabilities are.

MR. SHAW: I think we're done. Thank you very much.

THE WITNESS: Thank you.

MR. TAMBE: Thank you.

(Time Noted: 3:40 P.M.)

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JOHN J. SCHNEIDER

Subscribed and sworn to before me this day of 2010.

____

J. Schneider

CERTIFICATE

STATE OF NEW YORK)
: ss
COUNTY OF NEW YORK)

I, Kathy S. Klepfer, a Registered Merit Reporter and Notary Public within and for the State of New York, do hereby certify:

That JOHN J. SCHNEIDER, the witness whose deposition is herein before set forth, was duly sworn by me and that such deposition is a true record of the testimony given by such witness.

I further certify that I am not related to any of the parties to this action by blood or marriage and that I am in no way interested in the outcome of this matter.

I further certify that neither the deponent nor a party requested a review of the transcript pursuant to Federal Rule of Civil Procedure 30(e) before the deposition was completed.

In witness whereof, I have hereunto set my hand this 12th day of April, 2010.

J. Schneider

INDEX

J. Schneider

NAME OF CASE: In re: Lehman Brothers
DATE OF DEPOSITION: April 12, 2010
NAME OF WITNESS: John J. Schneider
Reason Codes:

1. To clarify the record.
2. To conform to the facts.
3. To correct transcription errors.

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Exhibit L

UNITED STATES BANKRUPTCY COURT
SOUTHERN DISTRICT OF NEW YORK

In re:	:	Chapter 11
	:	Case No. 08-13555 (JMP)
LEHMAN BROTHERS HOLDINGS INC., *et al*.,	:	
	:	(Jointly Administered)
Debtors,	:	

JOHN J. SCHNEIDER EXPERT REPORT

March 15, 2010

Table of Contents

List of Appendices

I. INTRODUCTION

1. This report is submitted by John Schneider, a Managing Director at Navigant Consulting Inc. I discuss my qualifications in more detail in section II and present my curriculum vitae in Appendix I.

2. I have prepared this report at the request of Counsel for Movants to set forth the subject matters on which I expect to testify, the substance of the facts and opinions on which I expect to testify, and a summary of the foundations for each opinion.[1]

3. Navigant Consulting Inc. charges an hourly rate of $580 for my time. Other Navigant Consulting Inc. professionals working under my direction and supervision assisted in my analysis and were or will be compensated for their work at their customary hourly rates. This compensation is not contingent upon the substance of my testimony or the outcome of this matter.

4. The remainder of this report is organized as follows. I summarize my opinions in Section III and in section IV, I provide basis for my opinions.

II. SUMMARY OF QUALIFICATIONS

[1] This report concerns three motions before the court: 1) Motion of Official Committee of Unsecured Creditors of Lehman Brothers Holdings Inc., et al., Pursuant to 11 U.S.C. § 105(a), Fed. R. Civ. P. 60(b), and Fed. R. Bankr. P. 9024, for Relief from Order Under 11 U.S.C. §§ 105(a), 363, and 365 and Federal Rules of Bankruptcy Procedure 2002, 6004 and 6006 Authorizing and Approving (A) Sale of Purchased Assets Free and Clear of Liens and Other Interests and (B) Assumption and Assignment of Executory Contracts and Unexpired Leases, Dated September 20, 2008 (and Related SIPA Sale Order) and Joinder in Debtors' and SIPA Trustee's Motions for an Order Under Rule 60(b) to Modify Sale Order, September 15, 2009.
2) The Trustee's Motion for Relief Pursuant to the Sale Orders or, Alternatively, for Certain Limited Relief Under Rule 60(b), September 15, 2009.
3) Debtor's Motion for an Order, Pursuant to Fed. R. Civ. P. 60 and Fed. R. Bankr. P. 9024, Modifying the September 20, 2008 Sale Order and Granting Other Relief, September 15, 2009.

5. My Present position is Managing Director at Navigant Consulting Inc. I earned my B.S. in accounting from the University of Scranton and an Executive MBA degree from Boston University. I am a Certified Public Accountant licensed in the State of Pennsylvania.

6. For over 23 years, I have worked with financial services companies designing and evaluating governance and control environments. I have been invited to speak at numerous industry events and I have published articles on developing compliance programs and various regulatory matters.

7. My experience at Navigant Consulting Inc., Brown Brothers Harriman & Co. and Citibank focused on the custodial activities performed and the control environments designed to mitigate the inherent business risks. Specifically, my work was performed in both an audit and compliance capacity, which provided me an opportunity to develop risk, governance, control and regulatory expertise. I have had specific experience in reviewing securities lending and repo transactions and the related policies, processes and controls designed and implemented to mitigate the inherent risks associated with the contractual commitment to provide custodial and valuation services, including the documentation of eligible securities, the processes in place to ensure that only appropriate collateral is accepted on behalf of lenders and the adequacy of valuation processes and a firm's ability to mark collateral in accordance with contractual obligations and internal policies. My experience is described in more detail in my curriculum vitae, which is attached as Appendix 1.

III. SUMMARY OF OPINIONS

8. Based on the information available to me, the following is a summary of my opinions with regards to the elements of this matter I was engaged to review. My work on this matter

continues and I reserve the right revise the opinions set forth in this report based on additional relevant information that is made available.

9. Bank of New York/Mellon ("BoNY") and JP Morgan Chase Bank, N.A. ("JPM"), control the vast majority of the tri-party repurchase custodial business in the U.S., and have developed the capacity to value all types of collateral received under tri-party arrangements on behalf of the parties to those arrangements.[2] If BoNY and JPM were unable to accurately mark hard to value complex securities, they would be exposed to undue business risk and would not be recognized as industry leading tri-party repo agents.

10. Additionally, pursuant to their contractual obligations and the requirements imposed on tri-party repo agents by the Federal Reserve Bank of New York ("NY Fed"), BoNY and JPM had a duty to mark the collateral securing the repo Barclays plc (Barclays) assumed from the NY Fed. Furthermore, the parties to the Tri-Party Agreements clearly agreed to: (1) have BoNY and JPM act as custodians and Tri-Party Agents; and (2) accept BoNY's and JPM's collateral valuations under each Tri-Party Agreement.

11. BoNY and JPM were capable of and in fact had a duty to determine collateral values. Therefore, BoNY and JPM collateral 'marks'[3] should not be summarily dismissed as unreliable.

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[2] Federal Reserve Bank of New York, Repurchase and Reverse Repurchase Transactions [hereinafter *Repurchase and Reverse Repurchase Transactions*], *available at* http://www.newyorkfed.org/aboutthefed/fedpoint/fed04.html (last visited Mar. 15, 2010) ("In a tri-party repo, both parties to the repo must have cash and collateral accounts at the same tri-party agent, which is by definition also a clearing bank. The tri-party agent will ensure that collateral pledged is sufficient and meets eligibility requirements, and all parties agree to use collateral prices supplied by the tri-party agent").

[3] Report of Professor Paul Pfleiderer (Jan. 8, 2010) [hereinafter *Pfleiderer Report*] at 11, note 22. A 'mark' is a per-unit amount that is used to value a position. The mark used to value a specific security on a given day for a particular purpose may be based on or set equal to an observable price, if available, or based on or set equal to a bid price or an offer price or some point between the two, assuming quotes are available. Where reliable prices are not available and credible quotes are not forthcoming, a mark must be based on an estimate of value, generally derived from a model or some other analysis of value.

12. Prof. Pfleiderer's assertion that BoNY and JPM did not have the capability to accurately value the collateral, and therefore, their values should be dismissed as unreliable and is not supported by the facts.[4]

IV. OPINIONS

13. In his expert report, Prof. Pfleiderer concludes that:

> "none of the three sets of marks discussed in this subsection — the marks in Lehman's GFS system; JP Morgan Chase's custodial marks; and BNY/Mellon's custodial marks — provides a reliable basis for valuing the positions comprising the Repo Collateral."[5]

14. In support of his conclusion, Prof. Pfleiderer makes certain assumptions that BoNY and JPM did not have adequate insight into the collateral to be able to assign marks and accurately calculate values for the collateral:

> "***There is every reason to believe*** that JP Morgan Chase and BoNY, in their roles as custodians, had no better insight and were no better informed than (and more likely were not as well informed as) Mr. King[6] and his team. Thus, *it is virtually certain* that both JP Morgan Chase and Bank of New York encountered significant problems in characterizing, understanding, and marking at least some of the securities that comprised the Repo Collateral. Given that JP Morgan Chase had just a few days to understand and mark at least the positions backing the FRBNY's loans to LBI earlier in the week, and that BoNY had just one day (at most) to understand and mark the positions backing the Barclay's Fed Replacement Repo loan to LBI on Thursday, *it is highly likely* that at least some of their marks were, at a minimum, imprecise."[7]

15. Prof. Pfleiderer did not perform any independent analysis of the custodian banks' pricing processes, specifically (i.e., policies, procedures, fair value models, market data vendors, ability to leverage internal market making activities and accompanying system and applications used to

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[4] *Id.* at ¶46.
[5] *Id.*
[6] Stephen King, as head of Barclays' Principal Mortgage Trading Group ("PMTG"), was responsible for managing the "on-boarding" of most or all of the Repo Collateral positions, for valuing at least some of the positions that were transferred to Barclays, and, ultimately, for hedging, to the extent possible, the risks associated with the on-boarded positions.
[7] *Pfleiderer Report*, *supra*, at ¶ 43 (emphasis added).

mark collateral) and BoNY and JPM's operations in particular to support his above opinion. Without at least some understanding of JPM's and BoNY's pricing processes, Prof. Pfleiderer cannot possibly know or have a basis for assuming whether these institutions had insight into the appropriate marks for collateral or the level of accuracy of the collateral marks.

16. In fact, Prof. Pfleiderer did not even thoroughly read the contracts governing JPM's or BoNY's role as Tri-Party Repo agent:

> Q. Do you have any understanding with respect to JPMorgan Chase what the scope was of their contractual duties to value securities as custodial agent?
>
> A. Not in the basis of a thorough reading of a contract, no.
>
> Q. Same question for Bank of New York. Do you have an understanding as to what their contractual duties were to value securities as a custodial agent?
>
> A. Not on the basis of a thorough reading of the contract, no.
>
> Q. Did you ask for a copy of J.P. Morgan's securities pricing policies?
>
> A. I personally did not, and I don't know whether staff working in my direction did or did not.
>
> Q. How about Bank of New York, did you ask to see their pricing policies?
>
> A. Same answer as before.
>
> Q. You did not?
>
> A. I did not. And it may or may not be the case that staff working in my direction had looked at that.
>
> Q. In the course of your work, you don't recall ever seeing such policies from J.P. Morgan or Bank of New York for this assignment?
>
> A. I'm pretty sure I did not see any policies. I've looked at Barclays policies, but I don't believe I've seen either J.P. Morgan or Bank of New York policies.[8]

[8] Deposition of Professor Paul Pfleiderer (Feb. 23, 2010), 170:19-172:2.

17. It is clear is that Prof. Pfleiderer did not take the necessary steps to become sufficiently educated as to the duties of JPM and BoNY under the relevant contracts or their capabilities with respect to valuation of collateral securing Repo transactions. Accordingly, Prof. Pfleiderer could not have had enough information to make any determination as to JPM's or BoNY's valuation capabilities, and he was not in a position to form an opinion as to the reliability of their collateral marks.

18. According to the contracts that govern the repurchase agreements, a Tri-Party Repurchase Agent has a duty to value the collateral and the parties to the Tri-Party Agreement agree to use collateral marks supplied by the tri-party repo agent. The NY Fed has set out the responsibilities of tri-party repo agents in each repo agreement:

> Fed repos are done via tri-party settlement, which means that the Fed and the primary dealers use a tri-party agent to manage the collateral. In a tri-party repo, both parties to the repo must have cash and collateral accounts at the same tri-party agent, which is by definition also a clearing bank. The *tri-party agent will ensure that collateral pledged is sufficient and meets eligibility requirements, and all parties agree to use collateral prices supplied by the tri-party agent*.[9] [emphasis added]

19. Other authorities have described a tri-party repo agent's duties, as follows:

> "The triparty clearing bank provides cash and collateral custody accounts for parties to the repo deal and collateral management services. These services include ensuring that pledged collateral meets the cash lenders' requirements, pricing collateral, ensuring collateral sufficiency…[10]" [emphasis added]

[9] *Repurchase and Reverse Repurchase Transactions, supra*.
[10] Tobias Adrian, Christopher R. Burke & James J. McAndrews, *The Federal Reserve's Primary Dealer Credit Facility*, Current Issues in Economics & Finance, Volume 15, No. 4, (Aug. 2009) [hereinafter *The Federal Reserve's Primary Dealer Credit Facility*] (emphasis added).

20. BoNY and JPM, as tri-party repo agents and custodians, had a contractual relationship with each party to the custody agreement.[11] Non-discretionary custodial activities are governed by such contractual relationships, according to the Office of the Comptroller of the Currency.[12]

21. Repurchase and custodial agreements normally specify, but are not limited to, the following standardized terms important to regulatory views of proper process and procedures for review of repurchase contracts for propriety and completeness, including:

- Terms of transaction initiation, confirmation and termination;
- Provisions for payments and transfers of securities;
- Requirements for segregation of collateral securities;
- Acceptable types and maturities of collateral securities;
- Initial acceptable margin for collateral securities of various types and maturities;
- Margin maintenance and collateral repricing provisions;
- Provisions for collateral substitution;
- Rights to interest and principal payments;
- Events of default and the rights and obligations of the parties;
- Required disclosures for transactions in which the seller retains custody of purchased securities;
- Disclosures required by regulatory agencies; and
- Persons authorized to transact business for the depository institution and its counterparty.[13]

22. In practice, since 1995, most repurchase agreements are based upon standardized contracts available at the Securities Industry and Financial Markets Association (SIFMA), formerly known as the Bond Market Association.[14] The Custodial Undertaking in Connection with Master Repurchase Agreement, by and among, Barclays Plc (buyer), Lehman Brothers Inc.

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[11] Office of the Comptroller of the Currency, Administrator of National Banks, Comptroller's Handbook, Asset Management, Custody Services (2002) at 1-2 [hereinafter *Comptroller's Handbook*].

[12] *Id.*

[13] Federal Financial Institutions Examination Council, Repurchase Agreements of Depository Institutions With Securities Dealers and Others; Notice of Modification of Policy Statement, 63 Fed. Reg. 6935-38 (Feb. 11, 1998) [hereinafter *Repurchase Agreements of Depository Institutions*].

[14] The Bond Market Association & International Securities Market Association, TBMA/ISMA Global Master Repurchase Agreement (2000 Version) [hereinafter *TBMA/ISMA Global Master Repurchase Agreement*], *available at* http://archives1.sifma.org/agrees/global_master_repurchase_agreement.pdf (last visited Mar. 15, 2010).

(seller) and The Bank of New York Mellon (custodian), generally reflects these standardized terms.

23. Under the relevant agreement between BoNY, Barclays Plc and Lehman Brothers Inc., (the BoNY "Tri-Party Agreement")[15] BoNY had a duty to determine the market value of securities, and in accordance with the agreement, notify the buyer and seller of any margin deficit, or excess.[16]

24. Additionally, each party to the BoNY tri-party agreement agreed that BoNY had the discretion to mark collateral and in the event that BoNY could not, "obtain the price of a particular Security from such pricing information services on any Business Day, the Market Value shall be as determined by Custodian [BoNY] in the reasonable exercise of its discretion…[17]".

25. James Hraska, the Lehman executive in charge of transferring collateral, confirmed his understanding that BoNY was Barclay's agent and custodian under the repo:

> A. There were two tri-party agents involved. There was Chase, who was a tri-party agent, who held our collateral with the Fed that we had pledged to the Federal Reserve, and then, in effecting the transaction, according to the tri-party terms, there was Bank of New York, who was the agent for Barclays.
>
> Q. I see reference in some of the documents to BoNY tri-party?
>
> A. Uh-huh.
>
> Q. Is that the tri-party we're -- is that the transaction we're talking about?
>
> A. Yes, that's correct. We moved the assets from JPChase, who was our tri-party agent, to Bank of New York, who was, as I mentioned, Barclays' agent.[18]

26. Prof. Pfleiderer agrees that BoNY had a duty to mark the collateral when he states that:

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[15] Custodial Undertaking in Connection with Master Repurchase Agreement, By and Among, Barclays Plc (buyer), Lehman Brothers Inc. (seller) and The Bank of New York Mellon (custodian) [hereinafter *Tri-Party Agreement*].
[16] *Tri-Party Agreement*, § 6 (A)(i)-(ii).
[17] *Tri-Party Agreement*, §1, (K), "Market Value of Securities."
[18] Deposition of James Hraska (Aug. 14, 2009), at 39: 9-24.

> assigning marks is a necessary element of services these banks provide as tri-party repo custodians…that both banks [JPM and BoNY] maintain procedures and pricing groups that enable them to provide this marking service quickly and with the level of accuracy required by their roles in tri-party repos for the types of securities typically eligible as collateral in tri-party repos at least under normal conditions, for normal commercial tri-party repos.[19]

27. BoNY and JPM are the two tri-party repo agents that control the vast majority of the tri-party repurchase custodial business in the United States and as discussed above, as tri-party Agents, they are responsible for marking collateral values each day (and sometimes intra-day) to ensure that the collateral is sufficient to secure the loans in accordance with their agreements and accompanying eligible securities schedules. As such, BoNY and JPM are required to have and maintain valuation capabilities to: (1) fulfill their contractual obligations; and (2) remain the dominant commercial tri-party repo agents serving the U.S. market.

28. In March 2008, the overall US repo market was $4.5 trillion. At peak levels in 2008 tri-party repos represented a significant majority of the repo market, when over US$2.8 trillion in securities were being financed through tri-party repo transactions, many with very short maturities, and involving the daily transfer of nearly the full amount of associated cash and securities on the accounts of one or the other of the two tri-party "clearing banks": Bank of New York Mellon (BNY) and JPMorgan Chase (JPM)."[20] As of September 2007, the Bank of New York handled some $1.5 trillion in tri-party balances each day."[21]

[19] *Pfleiderer Report, supra,* at ¶41.
[20] Federal Reserve Bank of New York, Progress Report, Task Force on Tri-Party Repo Infrastructure Payments Risk Committee (Dec. 22, 2009) [hereinafter *Progress Report*], *available at* http://www.newyorkfed.org/prc/report_091222.pdf (last visited Mar. 15, 2010).
[21] The Bank of New York Mellon, Increasing Tri-Party Repo and Securitization Transparency: A Roundtable Discussion, (2008) [hereinafter *Increasing Tri-Party Repo and Securitization Transparency*], *available at* http://www.bankofny.com/CpTrust/data/Tri_Party_Roundtable_Brochure.pdf (last visited Mar. 15, 2010).

V. THE TRI-PARTY REPO MARKET IS BOTH EXTENSIVE AND WELL-DEVELOPED

A. Tri-party Repo Definition and Market History

29. According to the NY Fed, "…a tri-party repo transaction involves three parties: a cash lender (the investor), a borrower that will provide collateral against the loan, and a tri-party clearing bank. The tri-party clearing bank provides cash and collateral custody accounts for parties to the repo deal and collateral management services. These services include ensuring that pledged collateral meets the cash lenders' requirements, pricing collateral, ensuring collateral sufficiency, and moving cash and collateral between the parties' accounts."[22]

30. In a repurchase, or "repo", transaction, an investor can borrow cash for a short period from another party, using securities as collateral for the loan. Investors with large portfolios of securities can thus lend these out and earn a return over time.[23]

31. According to the NY Fed, "there are two main types of settlement methods for repos: tri-party and "delivery vs payment" or DVP. Fed repos are done via tri-party settlement, which means that the Fed and the primary dealers use a tri-party agent to manage the collateral. In a tri-party repo, both parties to the repo must have cash and collateral accounts at the same tri-party agent, which is by definition also a clearing bank. The tri-party agent will ensure that collateral pledged is sufficient and meets eligibility requirements, and all parties agree to use collateral prices supplied by the tri-party agent."[24]

[22] *Repurchase and Reverse Repurchase Transactions, supra*.
[23] Financial Times Lexicon, "repo," *available at* http://lexicon.ft.com/term.asp?t=tri-party-repo (last visited Mar. 15, 2010).
[24] *Repurchase and Reverse Repurchase Transactions, supra.*

32. The "tri-party repo has two important credit risk characteristics. First, it protects the creditor by taking margin from a borrower and lodging repo securities with a bank that has explicitly agreed to hold the securities for the benefit of the creditor. If the borrower fails to honor its repurchase commitment, the creditor can instruct the bank to sell the securities and apply the proceeds to satisfy its claim for repayment. Second, tri-party repo protects the borrower because the bank retains possession of the repo securities during the term of the repo, so the borrower can recover the securities promptly upon tender of the repurchase price. Thus, tri-party repo resolves the conflict inherent in conventional repos that borrowers and creditors cannot both be insulated from credit risk simultaneously."[25]

33. One of the operational benefits of tri-party repos is that, regardless of the term of the loan, the clearing bank unwinds the transaction each morning, returning the cash to the investor's account and the collateral to the borrower's account. Then at the end of the day, the borrower pledges qualifying collateral back to the deal, which once priced in that day's marking process, determined as eligible, and deemed sufficient to meet the terms of the deal by the clearing bank, is moved to the investor's account while the cash is placed in the borrower's account. In this way, no specific collateral is committed for more than overnight. This arrangement allows borrowers to pledge whatever eligible collateral they have on hand each day, thus enabling them to manage their securities portfolios more effectively.[26]

34. The securities loaned and the collateral provided are marked to market daily. When collateral exceeds the required margin the excess may be returned to the borrower. Alternatively, when the collateral value is less than the required margin, the borrower must provide additional

[25] Federal Reserve Bank of New York, *The Evolution of Repo Contracting Conventions in the 1980s*, 12 ECON. POL'Y REV. (May 2006), *available at* http://www.newyorkfed.org/research/epr/06v12n1/0605garb.html (last visited Mar. 15, 2010).
[26] *Repurchase and Reverse Repurchase Transactions, supra.*

collateral. The parties will stipulate who is responsible for safekeeping the collateral; the lending agent bank is often selected for the job. Some borrowers may require that the collateral be kept with an independent third party. The party safekeeping the collateral may do that alone, or it may also be responsible for pricing the assets, making margin calls, and collecting income. Responsibilities should be clearly set out in the agency agreement.[27]

35. An important implication of this daily unwinding, however, is that the counterparty risk for the investor shifts from its repo counterparty to the tri-party clearing bank, and the clearing bank becomes exposed to the borrower. Overnight, the cash investor has the borrower's collateral in its account and the borrower has the cash. If the borrower defaults overnight— say, by filing for bankruptcy—the lender has the collateral in its account and thus is covered and the clearing bank is not affected. Once the collateral and cash are returned in the morning, however, the clearing bank, which has extended credit to the borrower to finance the original collateral purchase, becomes exposed to the borrower. Consequently, the clearing bank needs to determine each morning if it is comfortable accepting the exposure to the borrower that the reversal of the transaction will create.[28]

36. Thus, the importance of a tri-party repo agent's valuation capabilities are not simply to protect the repo borrower and lender as part a contractual obligation, but also to protect the Tri-Party Repurchase Agent's *own* balance sheet and regulatory capital while they are exposed to the borrower during the daily unwinding process.

[27] *Comptroller's Handbook, supra,* at 33.
[28] *Repurchase and Reverse Repurchase Transactions, supra.*

B. Tri-party Repo Market Size and Participants

37. In September 2008, "outstanding tri-party repos [on US markets] totaled $2.5 trillion," of a total of roughly $4.4 trillion total US repo market.[29] Individual repo sellers (borrowers) routinely financed more than US$ 100 billion in securities via the tri-party mechanism. The largest single firm exposure peaked at more than US$ 400 billion.[30]

C. Tri-party Repo Collateral Types

38. The "Eligible Security Schedules to the Custodial Undertaking in Connection with Master Open Market Agreement (PCDF), Schedule of Eligible Securities, Bank of New York Mellon"[31] (the "Schedules") govern the types of collateral available to the Lehman repo. In general, the Schedules list these types of securities, along with their corresponding haircuts (or margin percentage), as eligible:

- Direct Obligations of the U.S. Treasury;
- Direct Obligations of the Federally Related Entities (see schedule for further, detailed listing);
- Agency and Private Label Mortgage-Backed Securities Passthroughs and CMOS; and
- Municipal Securities, Corporate Securities, Asset Backed Securities (including CDOs, CBOs, CLOs), International Agencies, Money Market Instruments, Whole Loans, Equities and Equity Derivatives

39. Such asset classes are common to tri-party repo markets. Tri-party repo was already a well accepted market a decade ago. As early as March 2000, the president of the then Bond Market Association ("BMA") wrote a letter to the NY Fed to maintain their participation in the market, begun as an emergency measure used to address financial crises in the late 1990s, noting: "The industry is increasingly moving toward tri-party repo as the preferred settlement

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[29] *The Federal Reserve's Primary Dealer Credit Facility, supra.*
[30] *Progress Report, supra.*
[31] BCI-EX-00297249.

method for its funding operations. This move is largely driven by the cost savings benefits inherent in tri-party repo (as opposed to Delivery versus Payment ("DVP") repo), the increased ease of execution of repo trades done on a tri-party basis, as well as the possession and control of collateral in a separate custodial account."[32]

40. The BMA then recommended the NY Fed maintain its expansion of acceptable collateral. The BMA strongly supported the expansion in 2000 of the "securities eligible as collateral in the repurchase transactions undertaken by the FRBNY in the management of banking system reserves. In particular, the expansion of eligible collateral to encompass structured agency securities and adjustable rate mortgage pass-through securities was viewed by the dealer community as an extremely positive development." BMA urged the NY Fed to expand acceptable collateral to (i) agency securities; (ii) passthrough mortgage securities; (iii) commercial and multifamily mortgage-backed securities; (iv) REMICS; (v) corporate securities; and (vi) asset backed securities.[33]

41. By 2005, "nontraditional" collateral had already become a substantial portion of primary dealers' repo transactions. According to economists at the NY Fed, by January 2005, "less liquid" collateral – consisting of corporate securities, as well as mortgage-backed and asset-backed securities – accounted for roughly 47 percent of primary dealers' repo transactions. By January 2006, that proportion reached around 48 percent; by January 2007, it was 50 percent; and by January 2008, it approached 55 percent. The market peaked at just below 60 percent

[32] Memorandum from the Bond Market Association regarding Continuation of FRBNY's Ability to Engage in Tri-party Repo, to Peter R. Fisher, Executive Vice President, Markets Group, Federal Reserve Bank of New York, (Mar. 14, 2000).
[33] *Id.*

toward the end of 2008, falling after the Lehman crisis to a low of roughly 45 percent, but rebounding quickly to almost 50 percent.[34]

42. Far from being new or esoteric, therefore, nontraditional or illiquid collateral had been commonly acceptable in tri-party repo arrangements both in private and Central Bank markets for well over a decade at the time of the Lehman bankruptcy, and comprised a substantial portion of the market in the US since at least 2005.

43. A pillar of the repo and tri-party repo market is the concept that collateral must be at least equal to the amount loaned. In particular, the "acquisition of a repurchase agreement may be deemed to be an acquisition of the underlying securities, provided the obligation of the seller to repurchase the securities from the investment company is Collateralized Fully…"Collateralized fully" in the case of a repurchase agreement means, among other things, that the value of the securities collateralizing the repurchase agreement (reduced by the transaction costs (including loss of interest) that the investment company reasonably could expect to incur if the seller defaults) is, and during the entire term of the repurchase agreement remains, at least equal to the Resale Price provided in the agreement."[35] The definition put forth in the Investment Company Act demonstrates the foundation of the Repo transaction; namely, that collateral must equal the amount loaned. The tri-party repo agent must, therefore, ensure it has developed adequate processes to monitor the value of pledged collateral or risk the inability to conduct business as an agent.

[34] *The Federal Reserve's Primary Dealer Credit Facility, supra.*
[35] Investment Company Act of 1940 at Rule 5b-3.

D. The Accuracy of Custodial Marks Has Implications for Custodian Risk and Regulatory Scrutiny

44. For banking law purposes, the authority of national banks to engage in custody activities like those involved in tri-party repo derives from the general business of banking and incidental powers language in 12 U.S.C. § 24. The Supreme Court has recognized that this authority is a broad grant of power to engage in the business of banking and that the concept evolved over time as business practices developed and changed.[36]

45. The custody activities of national banks developed from providing safekeeping and settlement services to customers for a fee, and historically were viewed as permissible incidental activities under 12 U.S.C. § 24 often were in conjunction with the delivery of fiduciary services.[37] The OCC has indicated that it does not treat non-discretionary custodial activities as fiduciary, and that those activities are authorized under 12 U.S.C. § 24.[38] Services traditionally provided include the settlement, safekeeping, and reporting of customers' marketable securities and cash. A custodian also may invest cash balances as directed, collect income, process corporate actions, price securities positions, and provide recordkeeping services.

46. A custodian acts only as an agent of the related parties. A custodian typically does not have discretion to select the investment vehicles. Instead, standing instructions in the custody agreement usually direct that selection.[39] The OCC goes to great lengths to spell out specifically that the custodian is not a trustee, and "generally is not subject to the strict fiduciary standards

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[36] *See Nationsbank v. Variable Annuity Life Ins. Co.*, 513 U.S. 251 (1995).
[37] *Comptroller's Handbook*, *supra*, at 1-2.
[38] *See, e.g.,* Office of the Comptroller of the Currency Interpretive Letter No. 769 from Julie L. Williams, Chief Counsel, to John H. Huffstutler, Senior Vice President and Chief Regulatory Counsel, Bank of America National Trust and Savings Association (Jan. 28, 1997), *available at* http://www.occ.treas.gov/interp/mar97/int769.pdf; 61 Fed. Reg. at 68545. [hereinafter *OCC Interpretive Letter #769*]
[39] See Nationsbank v. Variable Annuity Life Ins. Co., 513 U.S. 251 (1995).

that govern the relationship between a trustee and beneficiary."[40] Nonetheless, "a custodian may perform functions that are fiduciary in nature. For example, a custodian exercising discretion in managing a securities lending cash collateral pool would be acting in a fiduciary capacity and must comply with the relevant provisions of 12 C.F.R. 9."[41]

47. Custody relationships are, therefore primarily contractual in nature and are essentially directed agencies. The customer is the principal, and the custodian is the agent. The custody agreement, itself, therefore is important as a risk management tool. A well-specified custody agreement should "clearly establish the custodian's duties and responsibilities." Custody agreements should be "standardized when possible, and any deviations from the standardized agreement should be reviewed prior to acceptance."[42]

48. As discussed previously, industry standard repurchase and custody agreements normally specify, but are not limited to:

- Terms of transaction initiation, confirmation and termination;
- Provisions for payments and transfers of securities;
- Requirements for segregation of collateral securities;
- Acceptable types and maturities of collateral securities;
- Initial acceptable margin [haircuts] for collateral securities of various types and maturities;
- Margin [haircut] maintenance and collateral repricing provisions;
- Provisions for collateral substitution;
- Rights to interest and principal payments;
- Events of default and the rights and obligations of the parties;
- Required disclosures for transactions in which the seller retains custody of purchased securities;
- Disclosures required by regulatory agencies; and
- Persons authorized to transact business for the depository institution and its counterparty.[43]

[40] *OCC Interpretive Letter #769, supra.*
[41] *Comptroller's Handbook, supra,* at 11.
[42] *Comptroller's Handbook, supra*, at 1-2, 8.
[43] *Repurchase Agreements of Depository Institutions, supra.*

49. In practice, most repurchase agreements since 1995 have been based upon standardized contracts available at the Securities Industry and Financial Markets Association (SIFMA), formerly known as the Bond Market Association.[44]

50. As custody services are contractual in nature, a bank must ensure compliance with the provisions of all applicable agreements.[45] Typically, the custodian marks securities to market daily in both securities lending and tri-party repurchase agreements. Such marking is an integral part of the contractual arrangements that control the risk assumed by both lender and borrower.

> When collateral exceeds the required margin, the excess may be returned to the borrower. Alternatively, when the collateral value is less than the required margin, the borrower must provide additional collateral. The parties will stipulate who is responsible for safekeeping the collateral; the lending agent bank is often selected for the job. Some borrowers may require that the collateral be kept with an independent third party. The party safekeeping the collateral may do that alone, or it may also be responsible for pricing the assets, making margin calls, and collecting income. Responsibilities should be clearly set out in the agency agreement.[46]

51. 12 C.F.R. 12 establishes minimum recordkeeping and confirmation requirements for securities transactions handled by national banks. The regulation also requires that banks establish policies and procedures covering supervision of securities transactions.[47] Effective internal controls are essential to a bank's management of the risks found in custody services.[48] The rights and the obligations of a pledgee of a certificated security or of a claimant to a security interest in a security or security entitlement are determined by Uniform Commercial Code

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[44] *TBMA/ISMA Global Master Repurchase Agreement, supra.*
[45] *Comptroller's Handbook, supra,* at 4.
[46] *Comptroller's Handbook, supra,* at 33.
[47] *Comptroller's Handbook, supra,* at 10.
[48] *Comptroller's Handbook, supra,* at 6.

("UCC") Articles 8 and 9. Although UCC Article 9 requires that "the secured party shall keep the collateral identifiable," fungible collateral may be commingled.[49]

52. Still, the above are primarily compliance and reputational risk issues, not fundamental credit risk issues. Nonetheless, as discussed above, a custodian can expose itself to credit risk at various stages of the tri-party repurchase operational process.

53. In particular, credit risk is taken on by the custodian when the tri-party repurchase agreement is unwound and recast each day. "Overnight, the cash investor has the borrower's collateral in its account and the borrower has the cash. If the borrower defaults overnight— say, by filing for bankruptcy—the lender has the collateral in its account and thus is covered and the clearing bank is not affected. Once the collateral and cash are returned in the morning, however, *the clearing bank, which has extended credit to the borrower to finance the original collateral purchase, becomes exposed to the borrower***.** Consequently, the clearing bank needs to determine each morning if it is comfortable accepting the exposure to the borrower that the reversal of the transaction will create.[50]

54. Credit risk also arises in custodial activities when a counterparty does not fulfill its contractual part of a transaction and the bank has to extend or commit its funds to complete the transaction.[51] "In several highly publicized cases in the mid-1990s banks absorbed significant losses from the management of cash collateral to protect customer relationships and their own reputations."[52]

55. Sale and repurchase agreements where the credit risk remains with the bank receive a Basel Credit Conversion Factor (referred to in the industry as a CCF) of 100%. Hence, clearing

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[49] UCC Article 9, *available at* http://www.law.cornell.edu/ucc/9/9-207.html (last visited Mar. 15, 2010).
[50] *The Federal Reserve's Primary Dealer Credit Facility*, *supra* [emphasis added].
[51] *Comptroller's Handbook*, *supra*, at 44.
[52] *Comptroller's Handbook*, *supra*, at 35.

banks subject to Basel--Like requirements--such as BoNY and JPM--tend to have stringent policies and procedures regarding both investment credit risk and counterparty credit risk evaluation that figure into their assessment an implementation of valuation and haircut processes.

56. Accordingly, BoNY describes its capabilities as follows: "The Bank of New York Mellon's underlying infrastructure… is based on a proprietary collateral management system designed to efficiently handle all asset types denominated in any currency and targeted toward a global customer base. It can process a wide array of transaction types, including tri-party repurchase agreements, portfolio swaps, *collateralized* loans, swap collateralization deals and more."[53]

57. It is my conclusion therefore that both BoNY and JPM were well qualified to value the collateral at issue. Moreover, they were obligated contractually and under applicable law and regulation to maintain adequate processes and safeguards to be able to do so under the time constraints that are present in this market.

Submitted by

John Schneider

March 15, 2010

[53] *Increasing Tri-Party Repo and Securitization Transparency, supra*.

Appendix I
Documents Relied Upon

Documents in the Record

Depositions

Deponent	Date
James Hraska	8/14/2009
Paul Pfleiderer	2/23/2010

Deposition Exhibits

495 - Debtor's Motion for an Order, Pursuant to Fed. R. Civ. P. 60 and Fed. R. Bankr. P. 9024, Modifying the September 20, 2008 Sale Order and Granting Other Relief, Sept. 15, 2009
633A - Expert Report of Prof. Paul Pfleiderer, Volume 1
634A - Expert Report of Prof. Paul Pfleiderer, Volume 2

Other Documents

Description	Beginning Bates	Ending Bates
Eligible Security Schedules to the Custodial Undertaking in Connection with Master Open Market Agreement (PCDF), Schedule of Eligible Securities, Bank of New York Mellon,	BCI-EX-00297249	
Motion of Official Committee of Unsecured Creditors of Lehman Brothers Holdings Inc., et al., Pursuant to 11 U.S.C. § 105(a), Fed. R. Civ. P. 60(b), and Fed. R. Bankr. P. 9024, for Relief from Order Under 11 U.S.C. §§ 105(a), 363, and 365 and Federal Rules of Bankruptcy Procedure 2002, 6004 and 6006, dated Sept. 15, 2009		
The Trustee's Motion for Relief Pursuant to the Sale Orders or, Alternatively, for Certain Limited Relief Under Rule 60(b), Sept. 15, 2009		

Documents that are Publicly Available

61 Fed. Reg. at 68545.

Custodial Undertaking in Connection with Master Repurchase Agreement, By and Among, Barclays Plc (buyer), Lehman Brothers Inc. (seller) and The Bank of New York Mellon (custodian).

Federal Financial Institutions Examination Council, Repurchase Agreements of Depository Institutions With Securities Dealers and Others; Notice of Modification of Policy Statement, 63 Fed. Reg. 6935-38 (Feb. 11, 1998).

Federal Reserve Bank of New York, Progress Report, Task Force on Tri-Party Repo Infrastructure Payments Risk Committee (Dec. 22, 2009), *available at* http://www.newyorkfed.org/prc/report_091222.pdf (last visited Mar. 15, 2010).

Federal Reserve Bank of New York, Repurchase and Reverse Repurchase Transactions, *available at* http://www.newyorkfed.org/aboutthefed/fedpoint/fed04.html (last visited Mar. 15, 2010).

Federal Reserve Bank of New York, *The Evolution of Repo Contracting Conventions in the 1980s* , 12 Econ. Pol'y Rev. (May 2006), *available at* http://www.newyorkfed.org/research/epr/06v12n1/0605garb.html (last visited Mar. 15, 2010).

Financial Times Lexicon, "repo," *available at* http://lexicon.ft.com/term.asp?t=tri-party-repo (last visited Mar. 15, 2010).

Investment Company Act of 1940 at Rule 5b-3.

Memorandum from the Bond Market Association regarding Continuation of FRBNY's Ability to Engage in Tri-party Repo, to Peter R. Fisher, Executive Vice President, Markets Group, Federal Reserve Bank of New York, (Mar. 14, 2000).

Nationsbank v. Variable Annuity Life Ins. Co., 513 U.S. 251 (1995).

Office of the Comptroller of the Currency Interpretive Letter No. 769 from Julie L. Williams, Chief Counsel, to John H. Huffstutler, Senior Vice President and Chief Regulatory Counsel, Bank of America National Trust and Savings Association (Jan. 28, 1997), *available at* http://www.occ.treas.gov/interp/mar97/int769.pdf.

Office of the Comptroller of the Currency, Administrator of National Banks, Comptroller's Handbook, Custody Services (Jan. 2002).

The Bank of New York Mellon, Increasing Tri-Party Repo and Securitization Transparency: A Roundtable Discussion, (2008), *available at* http://www.bankofny.com/CpTrust/data/Tri_Party_Roundtable_Brochure.pdf (last visited Mar. 15, 2010).

The Bond Market Association & International Securities Market Association, TBMA/ISMA Global Master Repurchase Agreement (2000 Version, *available at* http://archives1.sifma.org/agrees/global_master_repurchase_agreement.pdf (last visited Mar. 15, 2010).

Tobias Adrian, Christopher R. Burke & James J. McAndrews, *The Federal Reserve's Primary Dealer Credit Facility* , 15 Current Issues in Econ. & Fin. 6 (Aug. 2009.

UCC Article 9, *available at* http://www.law.cornell.edu/ucc/9/9-207.html

APPENDIX II: CURRICULUM VITAE

John J. Schneider, CPA

John J. Schneider, CPA
Managing Director

Navigant Consulting
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27th Floor
Boston, MA 02110

617-748-8317 Main
617-261-0268 Fax

jjschneider
@navigantconsulting.com

Education
B.S., Accounting
University of Scranton
Scranton, PA

M.B.A. – Executive Program,
Boston University
Boston, MA

Current Position

John J. Schneider is a Managing Director in the Boston office of Navigant Consulting.

Mr. Schneider is a financial service executive with 23 years of compliance, risk management, operational redesign and internal audit experience in investment management, capital markets, and banking.

Professional Experience

Navigant Consulting, Inc., Boston, MA (2003-Present)

Managing Director – Regulatory Advisory Services

Managing Director with Navigant Consulting with over 23 years of experience in investment management, banking, capital markets.

- Lead the Regulatory Advisory Services practice, which has required coordinating teams to service over 100 engagements for Mutual Funds, Hedge Funds, Private Equity, Broker Dealers, Banking, and Managed Accounts organizations.
- Provided oversight to teams responsible for evaluating the methodologies employed to distribute unrealized losses for certain impaired assets and process in-kind distributions of collateral maintained for Securities Lending clients.
- Lead a team responsible for evaluating and analyzing the efficacy of controls designed to comply with regulation SHO.
- Advised clients on establishing and refining governance structures to achieve the appropriate level of oversight and risk mitigation.
- Developed methodologies for risk assessing and testing AML programs in accordance with the requirements of the Patriot Act.

- Created the methodologies for developing and implementing compliance programs for mutual fund complexes and investment advisors pursuant to 38a-1 and 206(4)-7.
- Managed teams responsible for performing Anti-Money Laundering reviews, providing management with advice to improve compliance policies, procedures and processes.
- Managed teams responsible for analyzing subscription and redemption activity for late trading and market timing.

Representative Clients

- JPMorgan Investment Advisors, Inc
- Janus Capital Management
- Prudential Investments with the Jennison Dryden Funds & Strategic Partners Funds
- Apollo Management with the Apollo Investment Corporation (a Business Development Company under the Investment Company Act of 1940)
- Apollo Capital Management with the Strategic Value Fund (onshore/offshore)
- Babson Capital Management, LLC.

Brown Brothers Harriman & Co., Boston, MA (1998-2003)

Vice President – Regional Audit Director

Managed professional teams in Boston and New York covering Investment Management and Investor Services, which represented 60% of the overall audit services. Specific responsibilities included:

- Developing and employing a risk-based financial, technology and operational audit plan for the US and Europe.
- Coordinating audit activities performed by the external auditors for SAS70 and year-end financial reviews.
- Ensuring the Firm's preparedness and coordinating external regulatory reviews conducted by the SEC, NYSE and State Bank examiners (New York, Massachusetts, and Pennsylvania).
- Evaluated the implementation of a Securities Lending program for custody clients.
- Member of several senior management oversight committees: Sarbanes-Oxley Committee, Know Your Customer Committee, Inter-Office Coordinating

Committee, and the BBH Funds Steering Committee. These committees were designed to monitor business model design and reengineering efforts, within the Firm.

- Advising the partnership on the cost versus benefits, compliance requirements and risks associated with the firm's products and services.

Selected Achievements:

- Gained 10% efficiency in completing the audit plan year over year during the first three years of managing the audit team.
- Partnered with management on several business initiatives including the development and implementation of Know Your Customer and credit polices, Sarbanes-Oxley, BBH Firm Authorities, self-assessments and risk management.
- Evaluated and developed policies, procedures and strategic systems initiatives for compliance with Know Your Customer, Anti-Money Laundering and Patriot Act requirements. Led an executive committee in the evaluation and approval of a firm-wide Anti-Money Laundering system, compliance resources, and business line oversight requirements. Active participation on the Firm-wide Compliance Committee and several subcommittees designed to provide recommendations and strategic solutions for compliance requirements.
- Developed and implemented a comprehensive quarterly certification process in response to Sarbanes-Oxley requirements. Developed policies and procedures for performing quarterly self-assessments, formed a Due Diligence Committee and standard certification letters for the different service levels provided to clients.
- Led a firm-wide initiative to analyze current practices, assess peer practices, and develop, present, and implement a global approach for the establishment, delegation and on-going support for monitoring and controlling internal and external authorities. Presentations and working groups were developed for information gathering, education, and communication of the philosophy, principles, and status of the project.
- Performed several consultative projects at the request of the partnership to provide recommendations for cost reduction, enhance control effectiveness, and improve operational efficiencies. In certain instances, the implemented recommendations resulted in cost reductions

of $200K-300K. Other initiatives resulted in a reduction of independent audit fees ($10K-50K per engagement).

Citibank, N.A., New York, NY (1989-1998)
Vice President – Global Investments and Investment

Finance Products Compliance Manager

- Created the compliance function for the monitoring and supervision of Investment products globally.
- Advised management on regulatory issues and coordinated the infrastructure development of new products and business initiatives.
- Established compliance procedures for a Section 20 broker/dealer.
- Coordinated the development and supervision of structured derivative products.
- Developed procedures for the risk management of derivative and complex structured products.
- Developed procedures for compliance with the Interagency guidelines (e.g., Know Your Customer, Anti-Money Laundering, Suitability, Investment Objective Setting).
- Created policies and procedures for various Investment Finance activities, including fair lending, global real estate and risk management.

Vice President – Audit Manager

- Promoted and rotated through business areas providing a significant product exposure: World Wide Security Services (1989-1991), Global Cash Management and Corporate Financial Control (1991-1992), Global Trade Finance (1993-1995), and Private Banking Group International Quality Delivery/Technology (1995-1996).
- Designed, planned, and coordinated financial, technology and operational audits.
- Prepared audit plans and programs setting forth scopes, objectives, and budgets.
- Evaluated business practices and controls resulting in appropriate recommendations to senior management.
- Managed 6-8 staff auditors.
- Chaired a committee (10 professionals) that performed testing and training of Audit Methodology and Corporate Audit Software for a region of 173 auditors.

Scholastic Inc., Lyndhurst, NJ (1988-1989)
Senior Auditor

Coordinated and participated on financial, operational, and technology reviews with the external auditors (Arthur Young). Performed weekly cash flow analyses for funding purposes.

Price Waterhouse, Morristown, NJ (1987-1988)
Staff Auditor

Responsible for audit and compilation assignments for diversified clientele with sales ranging from $3 to $70 million. Specifically, these responsibilities included the review and analysis of internal controls, balance sheet, profit and loss statements, and physical inventory observations.

Deposition/Testifying Experience:

C. Clark Hodgson, Jr., Receiver for Philadelphia Alternative Asset Management Company, LLC, and its partners, affiliates, subsidiaries
and related entities v. Man Financial Inc, Thomas Gilmartin, Sep Alavi, William Wambach, Timothy Braun, Jody Mcmillan, James Zamora and Monica Rodriguez

Published Articles:

Texas Hedge Fund Association Newsletter - Six Steps to Help Six Key Steps to Help Private Fund Advisors Prepare for Regulatory Change - November 11, 2009
Complinet - Six Steps to Help Private Fund Advisors Prepare for Regulatory Change - November 10, 2009
Compliance Week - Risk and Regulation Roundtable Discussion Summary - October 9, 2009
Risk Management Association Journal - How Increased Regulation Will Impact Market Participants - May 1, 2009
NCI Investigations Quarterly - The Risk Management Paradox - March 25, 2009
KYC360.com - Risk Management Paradox - April 13, 2009
Navigant Consulting - Due Diligence: Expectations in a Rapidly Changing World - April 1, 2009

Complinet - Reputation is Everything: How to Protect Your Reputation and Shore up investor Confidence - March 13, 2009
US Banker - Impact of Regulation on Credit Default Swaps Editorial - November 15, 2008
Strategic Finance – Finding Your Compliance Sweet Spot – August 2007
Strategic Finance - Falling into Line - May 2006
MFA Reporter - Annual Compliance Reviews: Lessons Learned - May 2006
MFA Reporter - FAQs - Hedge Fund Advisor Compliance & New SEC registration Rule of April 2005